REPORT RESUMES

ED 011 084 08

DEVELOPMENT OF A GUIDE ON RECORD KEEPING AND ANALYSIS IN THE VOCATIONAL AGRICULTURE RECORD BOOK FOR PRODUCTION AGRICULTURE.

BY- DUNCAN, A. O.
GEORGIA UNIV., ATHENS
REPORT NUMBER BR-5-8397 PUB DATE SEP 66
REPORT NUMBER ERD-461
CONTRACT OEC-6-85-034
EDRS PRICE MF-$0.18 HC-$3.36 84P.

DESCRIPTORS- *VOCATIONAL AGRICULTURE, *RECORDS (FORMS), *AGRICULTURAL EDUCATION, *INSTRUCTIONAL PROGRAMS, *TEXTBOOKS, TEACHING GUIDES, STUDY GUIDES, WORK EXPERIENCE PROGRAMS, ATHENS

A GUIDE FOR AGRICULTURAL TEACHERS AND STUDENTS WAS DEVELOPED TO BE HELPFUL TO STUDENTS AS A TEXTBOOK AND TO TEACHERS IN THEIR USE OF THE NATIONAL VOCATIONAL AGRICULTURE RECORD BOOK FOR PRODUCTION AGRICULTURE IN INSTRUCTIONAL PROGRAMS ON RECORD KEEPING AND ANALYSIS. UNIFORM AND ACCURATE RECORDS ARE EXPECTED TO PROMOTE ACCURACY IN REPORTING THE RESULTS OF THE INDIVIDUAL STUDENT'S WORK-EXPERIENCE PROGRAMS. THE AUTHOR AND CONSULTANTS RECOMMENDED THAT THE GUIDE BE MADE AVAILABLE TO EACH STUDENT OF VOCATIONAL AGRICULTURE CLASSES INVOLVED IN FARM MANAGEMENT. (TC)

ED011084

ERD-461

FINAL REPORT
Project No. 5-8397
Contract No. OE-6-85-034

U. S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
Office of Education
This document has been reproduced exactly as received from the person or organization originating it. Points of view or opinions stated do not necessarily represent official Office of Education position or policy.

DEVELOPMENT OF A GUIDE
on
RECORD KEEPING AND ANALYSIS
in the
VOCATIONAL AGRICULTURE RECORD BOOK FOR PRODUCTION AGRICULTURE

September 1966

U. S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
Bureau of Research

DEVELOPMENT OF A GUIDE
on
RECORD KEEPING AND ANALYSIS
in the
VOCATIONAL AGRICULTURE RECORD BOOK FOR PRODUCTION AGRICULTURE

Project No. 5-8397
Contract No. OE-6-85-034

A. C. Duncan

September 1966

The research reported herein was performed pursuant to a contract with the Office of Education, U. S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

The University of Georgia

Athens, Georgia

INTRODUCTION

Overview of the Development Project

The objective of the development project was to prepare a publication entitled *A Guide on Record Keeping and Analysis in the Vocational Agriculture Record Book for Production Agriculture* suitable for use by students of vocational agriculture as a text and by teachers as an instructional unit.

The project was financed by a Federal Grant of $7,340 and University of Georgia funds of $3,111 over a five and one-half months period of time.

The work of the project was done by a director (who also served as the principal worker), three consultants, and a secretary. Each person diverted part of his time from regular duties for work on the project. A later section of this report describes the responsibilities of the workers and consultants.

Needs for the Guide

The needs for the guide are as follows:

1. During the past year a new *Vocational Agriculture Record Book for Production Agriculture* was developed by a National Record Book Committee composed of members from different regions of the Nation. The new record book was printed for distribution to vocational agriculture departments of each of the various states.

For many years special record books for vocational agriculture students have been developed by the various states and regions. The new record book referred to above was an effort to develop a standard national record book for production agriculture that would be more suitable for vocational agriculture students.

Most record books developed by colleges of agriculture, U. S. D. A. agencies, and commercial agricultural industries are on a whole-farm basis and are not appropriate for an individual enterprise record. Most such record books do not provide for an accounting of feed grown on the farm and fed to the various kinds of livestock kept on the farm.

Most record books developed by vocational agriculture workers especially for students of vocational agriculture are on an individual enterprise basis only and do not provide for getting a whole farm picture. Neither do they provide adequately for a record of the non-cash items.

The new record book is designed to provide for all the record needs of vocational agriculture students in production agriculture, such as providing a record for each individual enterprise, providing a record on a whole-farm basis, providing adequately for non-cash items, and providing for needed analyses of the record.

Various illustrations with hypothetical cases suggest that the record book is suitable and adequate for students of vocational agriculture. Specifically it provides for (1) beginning and ending inventories on a whole-farm basis for a calendar year for students who set up supervised farming programs on a fiscal year basis; (2) operating and capital expenses and income of both a cash and exchange or non-cash nature; (3) prorating operating expenses and non-capital income among the various enterprises so that enterprise analyses may be made; (4) summarizing the record in a manner to obtain a whole-farm picture of the several enterprises; (5) determining the student's share for each enterprise; (6) determining the amount and value of feed from the farm fed to each livestock enterprise; (7) analyzing net returns by enterprises; (8) obtaining an accounting of the student's total agricultural and non-agricultural earnings; and (9) securing a financial statement. Other record books examined do not provide all of the above information.

2. When the new record book was completed, members of the Record Book Committee were impressed with the large number of entries and calculations required. They realized the need for, and expressed a desire for, a guide that would be helpful to students and teachers in making the entries and in doing the calculations.

3. Students enrolled in vocational agriculture classes are required to conduct supervised work experience programs. Most of these students will have supervised work experience programs in production agriculture and will have the responsibility of keeping and using financial records of their supervised farming programs.

4. Most teachers of vocational agriculture include in their courses of study instruction concerning the operation and management of a production agriculture business, including instruction on records as essential tools of business management.

5. Students are required to have and use a record book (1) to learn how to keep and analyze records, and (2) to keep such records of their supervised farming programs to provide data for instructional use, tax records, applications for FFA degrees, etc.

6. Quality instruction is essential to the student's keeping accurate financial records of a farming program. The accurate analysis of such records and their use in planning and in reporting results also require appropriate instruction. A guide that will emphasize the value of accurate financial records and give directions in the practices of keeping, summarizing, analyzing, and using such records as are specified in the new record book is needed.

7. Such a guide would be useful (1) to students in recording and using their financial records, and (2) in providing assistance to teachers in planning and in conducting instructional programs on how to keep and use financial records as management tools.

8. Prior to this project no such guide was available on the national level. Until the project of developing the record book was completed, there was no uniform national record book. Therefore, a uniform guide to be used as an aid in using a uniform record book was not needed.

9. In the past the practice of providing such a service to students and teachers of vocational agriculture has been undertaken largely on a state-by-state basis. This program of developing a guide for use in all the states will insure uniformity and accuracy and will be more practical and time saving than would be the case were each state to attempt such an undertaking independently.

10. Also, clinics for training state leaders in the techniques of record keeping and analysis will be needed so that they may in turn conduct clinics for training teachers of vocational agriculture. In most instances previous training clinics dealing with technical agriculture have been conducted on a state basis or have been left undone. A national uniform training program in record keeping and use would insure more effective participation at all levels. The guide, as developed, will be valuable for the training clinics for both state personnel and teachers.

From the above observations it was concluded that a uniform guide was needed. The guide, therefore, was prepared to fill the need. The guide is unique in that it will meet a national need for teaching materials for vocational agriculture programs throughout the Nation.

Objectives of this Development Project

Upon completion of the national record book, A. O. Duncan, chairman of the National Record Book Committee, acting upon the suggestion of members of the committee, requested and received approval of grant funds from the U. S. Department of Health, Education, and Welfare for a development project for the following purposes:

1. To prepare a guide on using the Vocational Agriculture Record Book for Production Agriculture, the document to be suitable for student use as a text and for teacher use as a guide.

2. To make available sufficient copies of the guide for distribution to the state supervisors of vocational education in agriculture to be examined by them for the purpose of their reproducing the guide for teacher and student use in the states, or of their ordering a supply from a common source.

METHOD

Procedure Used in Obtaining Grant Funds and Organizing the Development Project

1. A proposal for a grant for a small contract developmental program under provisions of section 4(c) of the Vocational Education Act of 1963 was submitted to the U. S. Commissioner of Education. The procedure set forth in OE-4262 (10,1964)--"Conditions and Procedures for Preparing and Conducting Grant Programs Authorized under section 4(c) of Public Law 88-210"--was followed in making the application. The proposal was approved as submitted.

2. A. O. Duncan, Subject Matter Specialist in Agricultural Education, University of Georgia, was designated as the director and principal investigator for the project.

3. Three consultants were employed on a part-time basis. George E. Toben, Professor of Agricultural Economics, West Virginia University, served as the principal consultant. Percy Kirk, State Director of Agricultural Education, Cheyenne, Wyoming, also provided consultative services. Ruby Anderson, English Teacher, Athens High School, Athens, Georgia, served as editorial consultant. The work of the consultants is described in the section that follows on "Procedure Used in Preparing the Guide."

4. A contract for printing the guide was entered into with the French-Bray Printing Company of Baltimore, Maryland.

5. Work on the project was begun on October 1, 1965. The project was completed on March 15, 1966, and the final report of the project was submitted to the U. S. Office of Education.

Procedure Used in Preparing the Guide

1. The guide was developed by A. O. Duncan, a specialist in subject matter organization, in cooperation with the three consultants. George Toben, a specialist in farm accounting and records, was the chief worker for certain sections of the guide as well as a consultant for the entire guide. Also, consultative service was obtained from Percy Kirk, a member of the National Record Book Committee. Editorial consultative service was provided by Ruby Anderson, a specialist in editing materials for correctness and readability.

2. Toward the accomplishment of the objective of the project, an outline was made of the kind of materials that should be included in the guide. The broad outline used is as follows:

   a. Part one--background for farm accounting and record keeping including the importance of records, kinds and systems of records, and explanations of terms appropriate for records in vocational agriculture.

   b. Part two--illustration of record keeping and analysis, and explanations of the illustration.

   c. Part three--evaluating success in a farming program by calculating certain kinds of farm returns from the records.

As the guide was developed, each part described above was subdivided into chapters and topics. There were eight chapters for the three parts. A detailed listing of content items is given later in this report under the heading of "Discussion of the Results."

The outline suggests the development of the guide in conformance with a philosophy of agricultural education held by most teachers of vocational agriculture. They believe that the teaching-learning process for activities such as keeping and analyzing records involves at least four steps: (1) motivation of the student to perform the activity based on his personal needs for such training, (2) development of the student's understanding of facts and principles relating to the job to be done, (3) development of the student's skills in performing procedural steps in doing the job, and (4) further development of the student's knowledge and skills through application in actual job situations.

3. After the development of the broad outline for the guide,

each worker was assigned certain responsibilities for developing the content of the guide and for making it editorially correct and readable for high school level students. The assignments and work procedures were as follows:

a. The organization of the contents, supervision of the production, and development of the illustrations were done by the director of the project.

b. The factual information, definition of terms, explanations of entries and calculations, and the chapter on evaluating success in a farming program were done by the principal consultant.

c. As the development of the contents of the guide progressed, copies of the materials were continually exchanged between the two principal workers until the initial rough draft of the manuscript was developed.

d. A two-day conference for the workers and consultants was held in Kansas City; and a four-day workshop was held in Washington, D. C., to review and work on the manuscript.

e. The project director held conferences with the editorial consultant after each major revision of the guide. Edited copies were reviewed by the other consultants as the final copy was being developed.

4. The contents of the guide were carefully evaluated for appropriateness and accuracy. The evaluation consisted of:

a. A review and evaluation of the guide by members of the National Record Book Committee.

b. A review and criticism of the guide by two selected teachers of vocational agriculture from two states.

c. A review and criticism of the guide by six selected state supervisors and teacher trainers representing three states.

d. A final review of the guide by the consultants of the project.

The use of the varied staff of consultants with experience and abilities in farm accounting and records, organization of subject matter, development of instructional programs in agricultural education, and editing of materials for correctness and readability contributed much to the quality and the usability of both the record book and the guide by teachers and students in vocational agriculture.

A unique feature of the guide is that of a typical illustration of the record and analysis for a hypothetical supervised farming program of an advanced student. This illustration was recorded on the record book pages exactly as they are printed in the record book for student use. The illustration is done in long hand to resemble a completed record and analysis that will be made by the students and to provide a contrast between the illustration and the other parts of the guide.

Another unique feature of the guide is an explanation of each entry and each calculation of the illustration, item by item, in the chapter following the illustration. Each phase of the record is identified in the explanations, followed by a discussion of the procedure that was used in doing it.

Another unique feature of the guide is a second illustration for a less-involved supervised farming program typical of a beginning student. Many students do not need to use all forms of the record book. The illustration shows how such students can use the same record book by adapting it to their needs.

Chapter VII, on using records for evaluating the success of the farming program, is an addition that contributes both to an understanding of the need for records and to the procedure for using records.

RESULTS

1. The specific result of this development program was that of accomplishing the objectives set forth in the application for the grant as given earlier in this report. The printed guide is actually the result of the project.

The guide consists of 64 pages of information--33 pages of the guide proper and 31 pages of illustrations on the record book forms.

2. In addition to the copies required for the final report, adequate copies were printed for distribution to state leaders of the various states to acquaint them with the guide as a basis for their reproducing the guide for use by teachers and students of vocational agriculture in the high schools of the states, or for ordering a supply from a common source.

DISCUSSION OF THE RESULTS

The guide is comprehensive in that it contains pertinent information on the following topics:

PART ONE--A BACKGROUND FOR FARM ACCOUNTING AND RECORD KEEPING

- I. IMPORTANCE OF RECORDS
- II. KINDS AND SYSTEMS OF RECORDS
  - A. Kinds of Records
  - B. Systems of Records
- III. EXPLANATIONS OF TERMS APPROPRIATE FOR RECORDS IN VOCATIONAL AGRICULTURE

PART TWO--ILLUSTRATION OF RECORD KEEPING AND ANALYSIS AND EXPLANATIONS OF THE ILLUSTRATION

- IV. THE RECORD BOOK ILLUSTRATED
  - A. Introduction to Record Keeping
  - B. Illustration of Entries and Calculations in the Record Book for an Advanced Supervised Farming Program
- V. EXPLANATIONS OF ENTRIES AND PROCEDURES USED IN THE ILLUSTRATION
  - A. Explanations of Procedures in Record Keeping

    Enterprises for which this record is kept
    Agreement
    Beginning-of-year inventories
    Operating and capital expenses
    Income from capital and non-capital items
    End-of-year inventories

  - B. Explanations of Procedures Used in Making the Summary and the Enterprise Analysis

    Summary of the year's business
    Production of feed raised this year
    Disposal of feed that was on hand and was raised this year

- Analysis by enterprises
- Special conditions affecting income from different enterprises

C. Explanations of the Total of Student's Net Income and Financial Statement

- Total agricultural and non-agricultural earnings
- Total of student's net income
- Student's financial statement
- Important dates and notes

VI. VARIATIONS FROM THE ILLUSTRATION IN CHAPTER IV THAT MAY BE MADE FOR DIFFERENT STUDENTS

A. Explanations of Variations

- A student who operates completely on a 100 per cent basis
- A student with only one enterprise in his supervised program who uses no feed from his supply for his livestock
- A student with no capital assets
- A senior who graduates or any other student who discontinues vocational agriculture
- A farmer including one enrolled in a young farmer or adult class

B. Illustration of Entries and Calculations for an Agriculture I Student Who Continues in Agriculture II

PART THREE--EVALUATING SUCCESS IN A FARMING PROGRAM

VII. PROCEDURES FOR CALCULATING SELECTED KINDS OF FARM RETURNS FROM RECORDS

A. Net Cash

B. Net Cash Income

C. Net Farm Income

D. Labor Income

E. Returns to Management

F. Returns per Hour of Labor

G. Returns to Capital and Management

H. Costs and Returns from Broilers

I. Other Measures of Success

The off-set printing of the guide was done by the French-Bray Printing Company of Baltimore, Maryland. Also, this company has been engaged to print the larger supply for distribution to the states for teacher and student use.

CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

In the introduction of this document justifications are given for a guide on record keeping and analysis for production agriculture. The guide is needed primarily because a new national Vocational Agriculture Record Book for Production Agriculture has been developed and is being used by students in many states. Teachers and students need a guide for using the new record book.

The 64 pages of information in the guide will be helpful to students as a text and to teachers in their instructional programs on record keeping and analysis. The guide is unique in that it will meet a national need for teaching materials in vocational agricultural programs throughout the Nation.

The new record book and the accompanying guide will be helpful in providing for accurate and uniform records of students of vocational agriculture. Accurate and uniform records will promote accuracy in reporting the results of a student's work experience program.

The author and consultants recommend that the guide be made available to each student of the vocational agriculture class engaged in farm management for his program of study involving record keeping and analysis.

The author further recommends that research be conducted as a basis for evaluating the extent and quality of record keeping and analysis by students of vocational agriculture in the various states.

SUMMARY

The Problem

A National Record Book Committee developed a new Vocational

Agriculture Record Book for Production Agriculture. The record book has been made available to the various states for student use. The new record book is designed to provide for all the record needs of vocational agriculture students in production agriculture, such as providing a record for each individual enterprise, providing a record on a whole-farm basis, providing adequately for non-cash items, and providing for needed analysis of the record.

Students enrolled in vocational agriculture classes are required to conduct supervised work experience programs. Most of these students will have supervised work experience programs in production agriculture and will have the responsibility of keeping and using financial records.

Students are required to have and use a record book (1) to learn how to keep and analyze records, and (2) to keep such records of their supervised programs to provide data for instructional use, tax records, applications for FFA degrees, etc.

Quality instruction is essential to the student's keeping accurate financial records of a farming program. The accurate analysis of such records and their use in planning and reporting results also require appropriate instruction. A guide that will emphasize the value of accurate financial records and give directions in the practices of keeping, summarizing, analyzing, and using such records as are specified in the new record book is needed.

Members of the Record Book Committee expressed a need for a guide on using the new record book.

Grant funds were requested from the U. S. Department of Health, Education, and Welfare for developing the guide. Federal funds of $7,340 and University of Georgia funds of $3,111 were approved for the project.

Objectives of the Project

The objectives of the development project were to prepare a publication entitled A Guide on Record Keeping and Analysis in the Vocational Agriculture Record Book for Production Agriculture, the document to be suitable for use by students of vocational agriculture as a text and by teachers as an instructional unit; and to make available sufficient copies of the guide for distribution to the state supervisors of vocational education in agriculture to be examined by them for the purpose of their reproducing the guide for teacher and student use in the states, or of their ordering a supply from a common source.

Method Used

The guide was developed by A. O. Duncan, a subject matter specialist in agricultural education and the director of the project in cooperation with three consultants. George Toben, a specialist in farm accounting and records, was the chief worker for certain sections of the guide as well as a consultant for the entire guide. Also, consultative service was obtained from Percy Kirk, a member of the National Record Book Committee. Editorial consultative service was provided by Ruby Anderson, a high school English teacher. Each person diverted part of his time from regular duties for work on the project.

After the development of the broad outline for the guide, each worker was assigned certain responsibilities for developing the contents of the guide and for making it editorially correct and readable by high school level students. The assignments and work procedures were as follows:

a. The organization of the contents, supervision of the production, and development of the illustrations were done by the director of the project.

b. The factual information, definition of terms, explanations of entries and calculations, and the chapter on evaluating success in a farming program were done by the principal consultant.

c. As the development of the contents of the guide progressed, copies of the materials were continually exchanged between the two principal workers until the initial rough draft of the manuscript was developed.

d. A two-day conference for the workers and consultants was held in Kansas City; and a four-day workshop was held in Washington, D. C., to review and work on the manuscript.

e. The project director held conferences with the editorial consultant after each major revision of the guide. Edited copies were reviewed by the other consultants as the final copy was being developed.

Work on the project was begun on October 1, 1965. The project was completed on March 15, 1966, and the final report of the project was later submitted to the U. S. Office of Education.

Results Obtained

The printed guide is actually the result of the project.

The guide contains 64 pages of information--33 pages of the guide proper and 31 pages of illustrations on the record book forms. A brief outline of the guide follows.

a. Part one--background for farm accounting and record keeping including the importance of records, kinds and systems of records, and explanations of terms appropriate for records in vocational agriculture.

b. Part two--illustration of record keeping and analysis, and explanations of the illustration.

c. Part three--evaluating success in a farming program by calculating certain kinds of farm returns from the records.

The three parts contain a total of eight chapters with appropriate subtopics for each chapter.

The off-set printing of the guide was done by the French-Bray Printing Company of Baltimore, Maryland. In addition to the copies required for the final report, adequate copies were printed for sending to state supervisors of the various states to acquaint them with the guide as a basis for their reproducing the guide for use by teachers and students of vocational agriculture in the high schools of the states or for their ordering a supply from a common source.

Conclusions, Implications, and Recommendations

A guide is needed primarily because a new national Vocational Agricultural Record Book for Production Agriculture has been developed and is being used by students in many states. Teachers and students need a guide for using the new record book.

The information in the guide will be helpful to students as a text and to teachers in their instructional programs on record keeping and analysis. The guide is unique in that it will meet a national need for teaching materials in vocational agricultural programs throughout the Nation.

The new record book and the accompanying guide will be helpful in providing accurate and uniform records of students of vocational agriculture. Accurate and uniform records will promote accuracy in reporting the results of a student's work experience program.

The author and consultants recommend that the guide be made available to each student of the vocational agriculture class involved in farm management for his program of study involving record keeping and analysis.

The author further recommends that research be conducted as a basis for evaluating the extent and quality of record keeping and analysis by students of vocational agriculture in the various states.

A GUIDE

on

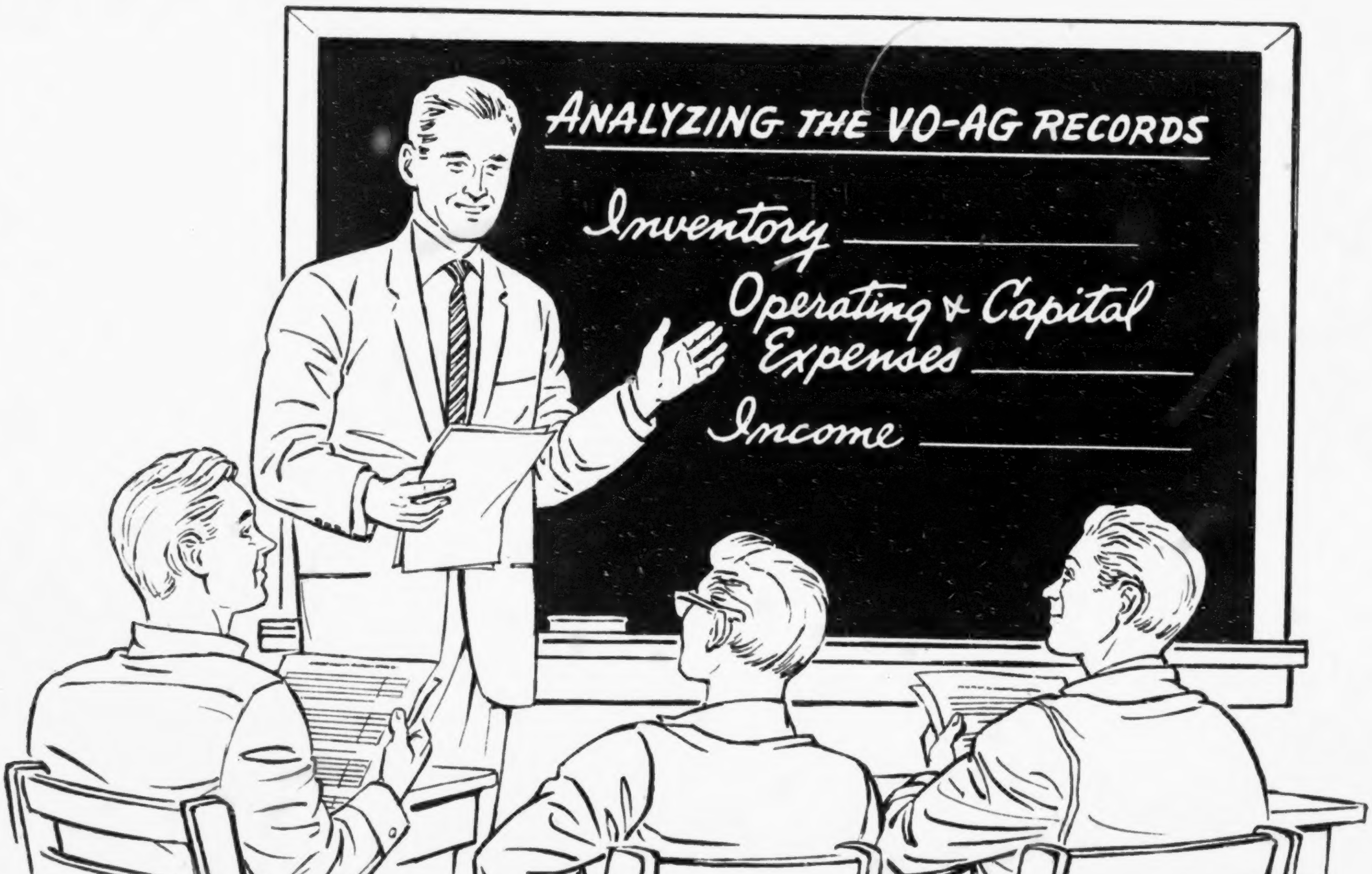
RECORD KEEPING and ANALYSIS

in the

Vocational Agriculture Record Book

for

Production Agriculture


ANALYZING THE VO-AG RECORDS
Inventory
Operating & Capital Expenses
Income

Prepared by

A. O. DUNCAN
Director of the Project

GEORGE E. TOBEN
Principal Consultant

VOCATIONAL AND TECHNICAL EDUCATION
GRANT NO. OE-6-85-034
VOCATIONAL EDUCATION ACT OF 1963
SECTION 4(c)

In Cooperation With

THE UNIVERSITY OF GEORGIA

March, 1966

The project herein was supported by a grant
from the U. S. Department of Health, Education, and Welfare,
Office of Education

FOREWORD

The Vocational Agriculture Record Book for Production Agriculture was developed during 1965. This *Guide* illustrates the use of that record book, explains selected features in it, and provides assistance with record keeping and analysis.

Students may use the guide for many purposes and in many ways. The purposes include (1) studying simple farm accounting, (2) learning procedures in keeping records, and (3) learning procedures in analyzing records. Even though the illustrations and explanations in the guide are not for the same kind of enterprises that a given student may have in his program, they will give him a real understanding of how to keep and analyze his records. A student seldom encounters the exact problems that were studied in the classroom, but he should apply the instructions in this guide to his own situation.

Teachers may use the guide for many purposes and in many ways. The purposes include (1) making preparation for teaching farm accounting and the use of records, (2) teaching record keeping, and (3) teaching record analysis. Ways of using the guide in teaching may include (1) use as printed, (2) use of parts with visual aid equipment, and (3) use as an idea for preparing illustrations appropriate to the local community. Sufficient copies of the guide should be available to the students for study and reference.

As indicated in the table of contents, this guide is arranged in three parts with eight chapters. It begins with a background for farm accounting and record keeping and concludes with calculations of selected kinds of farm returns and their uses. It contains an illustration of records and analysis, along with an explanation of each phase of the illustration.

This guide will be very useful to students with advanced supervised farming programs. Certain parts of it will be useful to beginning students or to other students with limited supervised farming programs. Some students may use only those parts of the record book that are appropriate for single enterprise programs. As these students advance to enlarged programs or a full scale business, they will become involved in more advanced record keeping and analyses.

The record book which is a basis for this guide was developed by a National Record Book Committee from four vocational agriculture regions of the Nation. The committee, appointed by the Chief of the Agricultural Education Service, included C. A. Cromer, Lincoln, Nebraska; A. O. Duncan, Athens, Georgia; Percy B. Kirk, Cheyenne, Wyoming; and Dan Koble, Dover, Delaware. George E. Toben of West Virginia University served as consultant.

ACKNOWLEDGMENTS

The guide was prepared as a Development Project under provisions of Section 4(c) of the Vocational Education Act of 1963.

The statements of facts, definitions of terms, explanations of entries, and calculations in the guide were supplied by George E. Toben, who is Professor of Agricultural Economics, West Virginia University.

The organization of the guide, supervision of the production, and development of the illustrations were done by A. O. Duncan, Director of the Project, who is Subject Matter Specialist in Agricultural Education for Georgia.

Percy B. Kirk, State Director, Agricultural Education, State of Wyoming, represented the National Record Book Committee in the preparation of the guide.

The editorial work was done by Miss Ruby Anderson, Teacher of English in the Athens High School, Athens, Georgia, and consultant to numerous graduate students in preparation of master's theses and doctoral dissertations.

Other members of the Natonal Record Book Committee provided guidance in the development of the guide.

H. N. Hunsicker, Chief of the Agricultural Education Service, U. S. Office of Education, and M. C. Gaar, Atlanta, Georgia served as advisors to the committee in this Development Project.

TABLE OF CONTENTS

Chapter *Guide Page*

Part One

A BACKGROUND FOR FARM ACCOUNTING AND RECORD KEEPING

I. IMPORTANCE OF RECORDS 1

II. KINDS AND SYSTEMS OF RECORDS 3

A. Kinds of Records 3

B. Systems of Records 4

III. EXPLANATIONS OF TERMS APPROPRIATE FOR RECORDS IN VOCATIONAL AGRICULTURE 6

Part Two

ILLUSTRATION OF RECORD KEEPING AND ANALYSIS AND EXPLANATIONS OF THE ILLUSTRATION

IV. THE RECORD BOOK ILLUSTRATED 9

A. Introduction to Record Keeping 9

B. Illustration of Entries and Calculations in the Record Book for an Advanced Supervised Farming Program 10

V. EXPLANATIONS OF ENTRIES AND PROCEDURES USED IN THE ILLUSTRATION 11

A. Explanations of Procedures in Record Keeping 11

Enterprises for which this record is kept 11

Agreement 11

Beginning-of-year inventories 12

Operating and capital expenses 12

Income from capital and non-capital items 14

End-of-year inventories 14

B. Explanations of Procedures Used in Making the Summary and the Enterprise Analysis 16

Summary of the year's business 16

Production of feed raised this year 17

Disposal of feed that was on hand and was raised this year 17

Analysis by enterprises 18

Special conditions affecting income from different enterprises 20

Chapter *Guide Page*

C. Explanations of the Total of Student's Net Income and Financial Statement 20
Total agricultural and non-agricultural earnings 21
Total of student's net income 21
Student's financial statement 21
Important dates and notes 21

VI. VARIATIONS FROM THE ILLUSTRATION IN CHAPTER IV THAT MAY BE MADE FOR DIFFERENT STUDENTS 22
A. Explanations of Variations 22
A student who operates completely on a 100 percent basis 22
A student with only one enterprise in his supervised program who uses no feed from his supply for his livestock 22
A student with no capital assets 22
A senior who graduates or any other student who discontinues vocational agriculture 22
A first-year student of vocational agriculture 22
A farmer including one enrolled in a young farmer or adult class 23

B. Illustration of Entries and Calculations for an Agriculture I Student Who Continues in Agriculture II 23

Part Three

EVALUATING SUCCESS IN A FARMING PROGRAM

VII. PROCEDURES FOR CALCULATING SELECTED KINDS OF FARM RETURNS FROM RECORDS 24
A. Net Cash 24
B. Net Cash Income 25
C. Net Farm Income 25
D. Labor Income 26
E. Returns to Management 26
F. Returns per Hour of Labor 27
G. Returns to Capital and Management 27
H. Costs and Returns from Broilers 27
I. Other Measures of Success 28

VIII. SUMMARY 29

Part One

A BACKGROUND FOR FARM ACCOUNTING AND RECORD KEEPING

Chapter I

IMPORTANCE OF RECORDS

One of the purposes for keeping records with a supervised farming program is to learn records, how to keep them, and how to use them. This learning involves two processes: one is studying and the other is doing. This guide provides both limited study material and procedures for making entries.

Farm records are as valuable as a person makes them. When they are kept accurately, studied carefully, and used frequently, they will serve a person well.

The more information that is entered into records, the more service they will be. When entries are restricted to amounts of money, then the record use is restricted to monetary comparisons. When entries include quantities as well as monetary values, then both factors may be evaluated.

Written records provide information that would otherwise be forgotten. In a short period of time the memory can recall many details. As time passes, the mind fails to recall the particulars. Unless the details are recorded, they will not be available when needed for making decisions that might influence income.

Records may be used in comparing various factors of production. The greater the student's knowledge about records, the more he can accomplish with them. It has been said, "Idle tools create no wealth." By comparison it may be said that idle records create no value. Records recorded and not used are comparable to crops produced and neither fed nor sold. Records should be kept, and then they should be used to answer appropriate questions.

Some of the specific uses of records are the following:

1. Preparation of reports—income tax, social security, supervised farming enterprise, and placement for experience.

2. Determining income—total farming business, a given enterprise, and a placement for experience in a supervised agribusiness program.

3. Making various kinds of analyses—total farm income, enterprise, machine operating costs, capital structure for measuring progress, loan requirements, and money available for personal spending.

The analysis of a student's record provides a personal use of mathematics, which is an important segment in the high school curriculum. Farm accounting, including record keeping and analysis, is applied mathematics. In the planning for and the management of any business, the ability to figure correctly is important because:

1. Correct jobs and practices, such as fertilizing and using machinery, should be based on net returns.

2. Optimum farm organization can be determined by comparing budgets which include alternative enterprises.

3. Capital decisions may make or break a farmer. Processes that are involved in investment decisions can be experienced with record keeping by students of vocational agriculture.

The system of records incorporated in the *Vocational Agriculture Record Book* is a simple set. It provides for a limited number of enterprises. As a student develops into a commercial farmer, he will find it advantageous to expand his record system.

Not all abilities needed in record keeping are obtained overnight. By the time a student completes four years of vocational agriculture, however, he should have acquired the abilities needed (1) to keep each phase of farm business records, (2) to analyze various parts of the records, and (3) to use the records for making important decisions.

What a student puts into his records should be decided from what he needs to get out of them. He should determine what he needs and then record information to meet his needs. If the early attempts with records do not provide adequate information for answering the problems, then more details should be entered.

Chapter II

KINDS AND SYSTEMS OF RECORDS

A. KINDS OF RECORDS

The kinds of records that a student keeps should be determined by his needs. Needs may change; therefore, the kinds of records may have to be changed. The soundest choice of the kind of record that should be used to meet a need is improved by an increase in the understanding of records. Wise selection is dependent upon a knowledge of records.

In this guide the information on records is limited to the kinds of records that are generally needed in vocational agriculture. This includes inventory records, cash records, and exchange records.

Inventory Records

An inventory record is a systematically arranged list of assets and liabilities with values assigned to each item. It is a record as of a given date. It is used for the purpose of accounting for the values of property and commodities on hand when the record for a given period of time is closed.

Inventory records may be taken at any time. Most farmers, however, maintain a record system that conforms to the calendar year. For this reason inventories are usually started as of January 1. Closing inventories for one year are transferred to the record as beginning inventories for the next year.

Once an inventory is taken, it should be used. It may be used in determining a person's net worth. When the summary of the year's business is made, inventory records are needed in calculating business or labor incomes. When an expansion in the business is desired, inventory records will be needed as supporting evidence for loan requests.

Once an inventory record is complete, it is available for various uses. It does not have to be changed until it is retaken at the end of another period, usually one year later.

When values between two dates are compared, changes in net worth can be measured. This reflects the financial change that results from sources of income and personal spending.

Details within an inventory provide numerous opportunities for planning. For example, the feed and livestock programs can be coordinated to determine feed needs or surpluses as compared with the desirability of selling or buying livestock.

The portion of an inventory record dealing with depreciable property is an essential part of an income tax report. It contains the details important to the depreciation charge in the tax return.

In farm record keeping, all property on hand is treated as inventory property. Feed, seed, and supply inventories provide a convenient method of crediting the year closed with the values produced and charging the year that is beginning with these same items as costs. Similarly, the inventories of poultry and feeder livestock provide an opportunity to evaluate the performance in a given year. Inventories of livestock held for breeding reflect changes in the production herd. Inventories of improvements provide a procedure for allocating costs to the years of use for those items used for production over a period of time.

Cash Records

A cash record is a statement of all cash expenses and cash receipts with individuals and firms outside the farm. It is a record of a business in action and provides a recording of financial transactions involving cash.

A cash record provides an accounting of the cash flow. If it is kept for the farm enterprises only, it reflects the details and the net cash for that part of the business. If cash records are kept for other sources of income and also for personal spending, then they can reflect business progress and personal thriftiness.

The cash record is an important part of an income tax report. With its use the problem of reporting income during the year is reduced to the job of adding. With its use the problem of assembling costs is simplified. The cash cost record contains the details. Without records many details would be neglected because expenses tend to occur in small and irregular amounts. With the complete and accurate listing of costs, the proper, but not excess, tax amounts can be reported.

A cash record by itself has to be used with an understanding of its limitations. It reflects gross receipts, gross expenses, and net cash. These terms take on meaning only when evaluated with a knowledge of the kinds of transactions and the changes in inventory. For example, a large net cash could reflect an income resulting from property produced or acquired in an earlier year. Conversely, a low net income does not reflect poor management, provided inventory was increased sufficiently.

Use for cash records increases when used in conjunction with an inventory record. Then the two may be used to prepare an income tax report, to calculate measures of earning, and to show management progress.

By itself a cash record provides information for future use about transactions of the past. It may be used as evidence of a payment.

A cash record involves both cash expenses and cash income.

Exchange Records

Exchange records are especially valuable to a student of vocational agriculture because they provide a means of accounting for the contributions both from and to others. Only when all costs and returns are recognized are true results reflected. If a student should receive feed, seed, labor, land, buildings, or equipment without charge and fail to charge the value of this contribution, ideas of great profit might develop. These ideas would lead to false conclusions.

Exchange between the student and the parent may be good or bad. The important fact is to recognize it and to place a value on the exchange. When that is done, then success or failure with a single enterprise or group of enterprises can be measured.

This kind of record specifically provides a means for recognizing values received from others even though no cash is paid. Similarly, the record provides space for recognizing values produced by the student's projects and value of his self labor when provided to others for non-cash considerations.

These exchange transactions can occur within a farm and be appropriately charged and credited to the two parties. The exchange transactions also account for trades with others outside the farm. In either case the exchange value represents an appropriate market assessment that should be placed on the goods or the services.

By itself the exchange record has limited use. Without it, however, false evaluations are likely to occur. In fact, the system used in the *Vocational Agriculture Record Book* combines cash records and exchange records after they have been accounted for separately. Exchange values are cash equivalents and are considered as cash in determining net income.

Exchange records apply to both expenses and income. An item traded for another item is income; and the item received in exchange if used in a business is an expense.

Self-Labor Records

A daily self-labor record is a listing of the work performed on specific enterprises or activities. The record includes the date, description of work, amount of time, and enterprise on which work was performed.

Detailed labor records are decreasing in importance because of the large amount of time involved in recording and analyzing them in comparison with their usefulness. Farmers are not keeping them, and relatively few have need for such labor records. Farmers may determine labor income without a record of the hours of self labor spent.

The *Vocational Agriculture Record Book* does not contain provisions for recording daily self labor. It was omitted because labor income can be calculated without the details. For some students and farmers net farm income is an indication of success that does not require self-labor records. The record book concludes with net farm income.

B. SYSTEMS OF RECORDS

A system of records is an arrangement which includes one or more of the different kinds of records to form a record unit. Systems are important because students and farmers generally have need for more than one type of record. There are three systems of records that meet the needs of most vocational agriculture students: the enterprise system, the whole-farm system, and a combination whole-farm and enterprise system.

The Enterprise System

Some students begin in production agriculture with one enterprise. The scope of this may vary from small to substantial. Even the smallest scope of an enterprise will usually require the use of cash records and exchange records, along with a summary for the enterprise.

As the student progresses in his program, additional enterprises are included. The more separation that is made in the accounting system for the enterprises, the more the student can learn about the economics of each enterprise. As the volume of individual enterprises increases and as the number of enterprises increases, they take on the composition of a total-farm record.

The Whole-Farm System

In the whole-farm system the expense items are entered as totals and are not prorated among the enterprises using them. For example, if two tons of fertilizer are purchased for $80 to be used for cotton, corn, and pasture, only one entry of $80 is made; and no record is kept of the cost to each enterprise. Hired labor and other expenses are done likewise. Also, there is no effort to keep the income from each enterprise separate. The marketing practices, however, naturally allow for separating income by enterprises much more readily than they allow for the expenses. A summary of records by the whole-farm system would show only the net farm income or operator's labor income for the whole operation and not for each enterprise separately.

Combination Whole-Farm and Enterprise System

In the combination system the records are kept in such a manner that the operating expenses and income are recorded for the total farm and are prorated among the various enterprises. Inventory items are also prorated at the close of the year.

A complete farm record system or a single enterprise system would involve the following:

1. Annual inventories of all assets and liabilities.
2. Cash costs and receipts.
3. Exchange expenses and receipts.
4. Summary of expenses and earnings.
5. Net cash and net farm income.

When a total-farm system and an enterprise system are combined, the combination involves information in addition [illegible] listed above. This includes the following:

1. A provision for prorating the value of non-cash feed, seed, and other items among enterprises using the item.

2. Provisions for crediting one enterprise and charging the other enterprise for the product produced by one and used by the other. Such a provision is included in a combination whole-farm and enterprise system.

3. A provision for determining net returns from each enterprise. A form for this is also in the record book.

Forms for each of the systems discussed are included in the *Vocational Agriculture Record Book* (see Chapter IV of the guide). Students may select and use only those that they need.

Certain students, especially those beginning in agriculture, may have relatively small supervised farming programs for which they own no capital items and have no beginning inventories. In such cases sections of the record book not needed can remain unused (see Chapter VI of the guide). Records for some students, therefore, will consist of only cash expense, exchange expense, cash income, exchange income, an ending inventory, and a summary showing net cash and net farm income.

Advanced students should learn to keep records for the whole-farm system in order to prepare themselves for keeping records as full-fledged farmers. Also, they should keep records for analysis by enterprises, since they need to prepare enterprise reports in connection with their supervised farming programs. This means that eventually they should learn how to keep and analyze records on all the forms in the *Vocational Agriculture Record Book* on which this guide is based.

Chapter III

EXPLANATIONS OF TERMS APPROPRIATE FOR RECORDS IN VOCATIONAL AGRICULTURE

Students starting to keep records may encounter terms that they have not used before. Chapter III is included to acquaint them with the meaning of selected terms used in the *Vocational Agriculture Record Book* and with selected terms that are used in farm record keeping. It is assumed that Chapter III will be used as the occasion demands for the purpose of gaining understanding needed rather than as a task of memorizing. This list, therefore, is arranged in alphabetical order for convenience in locating terms. Certain terms are entered in two alphabetical places for additional convenience in locating terms. Capital expense, for example, is entered under capital and under expense.

Advanced supervised farming program. An advanced supervised farming program reflects one of a relatively large magnitude. It may include one enterprise of a large scope or a program with a number of enterprises.

Agreement. An agreement is a mutual understanding concerned with the duties and rights among the student, parent or other person, and teacher on the extent of the things to be done with a supervised farming program.

Agricultural earnings. Agricultural earnings consist of the net cash income plus an increase or minus a decrease in total-farm inventory plus the value of farm products produced on the farm and used by the farm family, and minus the value of unpaid labor furnished by members of the family other than the student.

Analysis of records. An analysis of records is an examination and an evaluation of the physical and the economic data for purposes of determining performance or evaluating alternatives.

Asset. An asset is anything that is owned or receivable that has exchange value. Asset values correspond with the total investment included in the summary of inventories.

Beginning inventory. A beginning inventory is a systematically arranged detailed list of all assets and all liabilities at the beginning of the year.

Calendar year. A calendar year is the period of time from January 1 through December 31.

Capital expense. Capital expense is the cost of property used in the production of income; it includes permanent improvements, machinery, equipment, and livestock held for breeding purposes.

Capital income. Capital income consists of the receipts from the sale of property that was subject to depreciation prior to the time of the sale. For income tax purposes certain work and breeding stock may be recognized as capital income although they may be raised and are not subject to depreciation.

Cash expense. Cash expense includes all goods and services that are paid for with cash or check.

Cash income. Cash income includes all receipts for goods and services that are received in cash or by check.

Cost. Cost is the value paid for an item when it is acquired. This includes the cash payment and the inventory value of depreciable property traded, or else the cash payment and the current market value of the produce exchanged.

Cost less salvage. Cost less salvage is the value on which depreciation is claimed from the date of purchase when the straight line and the sum of the years-digits method of depreciation are used.

Depreciation. Depreciation is the decline in value of property because the property is used, it deteriorates, or it becomes obsolete. It is an accounting system for recovering costs of such property as farm buildings, machinery, equipment, and purchased work and breeding stock over the expected useful life.

Depreciation, straight line. Straight line method of depreciation is a method for recovering the cost of an item in equal amounts over the life of the item. Annual depreciation is cost minus salvage, when salvage is appropriate, divided by the estimated life.

Depreciation, declining balance. Declining balance method of depreciation is a method of recovering cost in which the annual depreciation is largest during the first year of use and declines in amount during each following year. The cost and the life of an item must be used for this method; salvage is not deducted from cost. The initial annual rate may double the straight line rate. This rate is applied to the remaining cost at the first of each year.

Ending inventory. An ending inventory is a systematically arranged detailed list of all assets and liabilities at the close of a year.

Enterprise. Enterprise is a part of a farm business involved in producing an individual product or class of products—for example, beef cattle, dairy cattle, poultry, cotton, corn, and alfalfa.

Enterprise analysis. An enterprise analysis is an evaluation of the income and the performance of a particular part of the business, such as corn or hogs.

Exchange expense. Exchange expense is the value of non-cash goods or services that are received from someone else in exchange for other goods or services. The student is obliged to enter the value of non-cash goods or services.

Exchange income. Exchange income is the value of non-cash goods or services that are given to someone else in return for the other goods or services.

Expense, cash. Cash expense includes all goods and services that are paid for with cash or check.

Expense, capital. Capital expense is the cost of property used in the production of income; it includes permanent improvements, machinery, equipment, and livestock purchased for breeding purposes.

Expense, non-cash. Non-cash expense is the value of the products from one enterprise that is used by another. The enterprise receiving the products is charged with the value; the other one is credited with the same amount. Included are such items as feed and manure.

Expense, operating. Operating expense includes the cash cost and exchange value of items received that are ordinary and necessary in the production process. Included are such items as feed, seed, fertilizer, and repairs.

Financial statement. A financial statement is a summary of the monetary value of the assets and liabilities for a business or an enterprise.

Fiscal year. The fiscal year is a twelve-month period. It is distinguished from a calendar year in that it may begin at a time other than January 1.

Grant-in-aid. A grant-in-aid is a financial support to provide assistance which otherwise would not be available. It may be used to stimulate vocational agricultural students to carry out an enterprise or a recommended practice. A grant-in-aid is usually provided to farmers with purchase orders. It is generally provided to an individual through institutions or agencies.

Income. Income is the money and other gain received by an individual or business.

Income, agricultural net. This term has a special meaning in the record book. It includes all income associated with agriculture except that income derived from the student's own enterprises. It includes such income as custom work with parent's equipment and the student's labor on the family farm other than on the student's enterprise.

Income, capital. Capital income is the receipts from the sale of property that was subject to depreciation prior to the time of the sale. For income tax purposes certain work and breeding stock may be recognized as capital income even if raised and not subject to depreciation.

Income, cash. Cash income includes all receipts for goods and services that are received in cash or by check.

Income, labor. Labor income is the net farm income minus a charge for the use of farm capital.

Income, net cash. The net cash income in this record system includes the gross cash and exchange income minus the gross cash and exchange expense.

Income, net farm. The net farm income is the net cash income plus increases in inventory or minus decreases in inventory.

Income, non-agricultural net. Non-agricultural net income is net income received by a student from earnings other than those associated with agriculture.

Income, non-capital. Non-capital income is the income from the sale or exchange of crops, poultry, and feeder livestock held for sale. It does not include income from the sale of real estate or machinery.

Income, total of student's net. The total of student's net income is the sum of the student's net income from all sources.

Interest on investment. Interest on investment is a charge for the use of capital items. It is calculated by multiplying the capital invested in the business by a rate of interest comparable to that which would be paid for borrowed capital or earned on surplus capital.

Inventory. Inventory is a systematically arranged list of property owned, or receivable, and all debts or obligations with a value assigned to each item.

Investment. Investment is the monetary value of all assets.

Labor earnings.[1] Labor earnings are net farm income plus the value of farm products furnished the farm family minus a charge for the use of farm capital. The measure of labor earnings is distinguished from labor income by including the value of farm products furnished the family in earnings but not in income.

Liability. Liability is the monetary value of an obligation. Liabilities include mortgages, notes, liens, accounts, and promises.

Livestock, breeding and work. This term includes all livestock held primarily for work, dairy, or breeding purposes. It includes cattle, hogs, sheep, goats, horses, mules, and other mammals; it excludes all poultry and feeder livestock. The classification is important for income tax purposes.

Livestock for sale and home use. This term includes livestock held for sale rather than for breeding purposes.

Management. Management is the decision process of choosing between alternatives.

Net worth. Net worth is the remainder when the value of the liabilities is subtracted from the value of the assets.

Net returns. Net returns carry the same meaning as net farm income in the *Vocational Agriculture Record Book.* Net returns are cash income plus increases in inventory or minus decreases in inventory.

Occupational experience. An occupational experience is an employment undertaking as a part of the education requirements in vocational agriculture. It is planned to provide supervised experiences in a chosen agricultural occupation or business.

Other party. Other party is an expression to designate a person assisting a student in a manner commonly done by a parent.

Permanent improvement. Permanent improvement is a term used to describe capital expenditures. It includes such items as buildings, permanent fences, and tile drains.

Production agriculture. Production agriculture is a term used in vocational agriculture to broaden the concepts of supervised farming beyond the usual farm enterprises to include specialty agricultural products, such as flowers, nursery stock, and animal furs.

Returns to capital. Returns to capital are the returns on an investment. Returns consist of net cash and exchange with adjustments for inventory changes minus a charge for the student's capital.

Returns to management. Returns to management are returns to capital minus a charge for the use of capital. The charge for capital is the investment times an appropriate interest rate.

Salvage. Salvage is the estimated value to be received at disposition of a depreciable item. It is the estimated value when the item is planned to be withdrawn from use. Income tax regulations are largely responsible for introducing salvage value into depreciation. The easy way to meet the requirements is to use a life on buildings and machinery that will wear out the items. If the salvage is expected to be 10 percent or less of the cost, it should be treated as zero.

Self labor. Self labor is the labor of the student. It is valued at rates comparable to those prevailing in the community. These rates may be expressed on an hourly, daily, monthly, or yearly basis.

Share basis. Share basis is the term to describe the division of responsibility and division of returns for a joint undertaking.

Supervised farming program. A supervised farming program is a phase of a supervised practice program that includes a group of farm enterprises which the student selects, plans, and conducts under the supervision of the teacher and parent or other party. The program is intended to develop the student to become better established as a farmer, an agribusiness man, and a citizen.

Unpaid family labor. Unpaid family labor is the value of services provided by members of the family who do not receive cash for their services. It does not include the value of the student's self labor.

---

[1] The distinction between labor earnings and labor income is based on definitions prepared by a farm records committee: Pond, G. A., *et al.* "Some Recommendations for Standardizing Farm Management Terminology," *Journal of Farm Economics,* Vol. XXXV, No. 4, November, 1953.

Part Two

ILLUSTRATION OF RECORD KEEPING AND ANALYSIS AND EXPLANATIONS OF THE ILLUSTRATION

Chapter IV

THE RECORD BOOK ILLUSTRATED

This guide includes two illustrations entered in the *Vocational Agriculture Record Book.* The first one, in Chapter IV, is for a hypothetical advanced supervised practice program of a student in the last half of Agriculture III and the first half of Agriculture IV. It includes six enterprises and other sources of income. The second one, in Chapter VI, is for a student with a less-involved program.

Both illustrations include entries for specific situations. It is important that a student know why the entries were entered in the manner shown. Knowing why will help him when he is encountering entries unlike those in the illustrations.

Some students with one enterprise may prefer to postpone studying Chapters IV and V until they have examined the illustration in Chapter VI. In either event each student should study the John Doe example in Chapter IV before starting to keep or analyze his own records. He should understand (1) what expenses and income to enter, (2) how to make each entry, (3) how to make the calculations for summarizing the records, and (4) how to interpret the results. The explanations of the illustration in Chapter V should be used in connection with the study of the illustration.

A. INTRODUCTION TO RECORD KEEPING

Records for a student should be continuous for all years. They should begin with the first project and continue as long as he has a farming program. These records may be kept beyond high school and until a shift is made to another system of record keeping.

If a student has a program with much size, he will be required to submit income tax returns. Tax regulations require records to be kept and returns submitted on a yearly basis. Reports can cover a period of one year or, under certain circumstances, a period less than one year, but never more than one year; therefore, it is essential that each student establish an accounting year. If it begins on September 1, then each succeeding one must begin on September 1 unless permission to change is received from the Internal Revenue Service. Most farmers use the calendar year and begin each year on January 1.

If a student plans to submit the tax returns on a calendar-year basis, he needs to choose between (1) keeping records on a school-year basis and preparing the tax report from records in two books, or (2) keeping records on a calendar-year basis and having a part of each of two years of vocational agriculture in each book. This record may be used with either choice but is more convenient when kept in correspondence with the tax year.

If a student has filed income tax reports before entering vocational agriculture, he has established his tax year. He needs to continue on the same tax-year basis.

The student who maintains his records on a calendar year basis will have a record for his enterprises for parts of two school years in the same book. The second half of one and the first half of the other school year will be included.

B. ILLUSTRATION OF ENTRIES AND CALCULATIONS IN THE RECORD BOOK FOR AN ADVANCED SUPERVISED FARMING PROGRAM

The following hypothetical illustration is developed to show how the complete *Vocational Agriculture Record Book* can be used for a student who has an advanced supervised farming program. It illustrates a supervised farming program of an Agriculture III student whose supervised practice program was expanded as an Agriculture IV student. It is for the calendar year 1966. It includes a record for the latter half of third-year agriculture and the first half of fourth-year agriculture. If the student should not enter Agriculture IV, then the supervised records may end with his supervised practice program as an Agriculture III student. If the student continues farming, he should not quit record keeping; for he will lose the benefits of a written record for business analysis and income tax purposes.

The various forms and instructions in the *Vocational Agriculture Record Book for Production Agriculture,* with corrections, were used in developing the illustration.

The record book page numbers are at the bottom of the pages; whereas, those for the guide are at the top of the pages. To avoid the confusion of two conflicting numbers at different positions on the same page, the guide page numbers are omitted on the reproduction of the pages of the record book containing the illustrations. This arrangement is appropriate because the references in the guide to the illustrations refer to record book page numbers. The succeeding page numbers for the guide are resumed on the pages following the illustrations.

VOCATIONAL AGRICULTURE RECORD BOOK

for

PRODUCTION AGRICULTURE

for

Calendar Year 19 66

NAME John Doe

SOCIAL SECURITY NO. 999 99 9999

ADDRESS Doeville, Mystate

SCHOOL Doeville High

SPECIFICALLY THIS RECORD BOOK PROVIDES SPACE FOR:

Item — *Page*
Enterprises for Which This Record Is Kept 2
Agreement for Students in Production Agriculture 3
Inventory of Crops, Feed, Seed, and Supplies 4
Inventory of Livestock and Poultry Held for Sale and Home Use 5
Inventory of Livestock Held for Breeding and Dairy Purposes 6
Inventory of Permanent Improvements, Machinery, and Equipment 7
Operating and Capital Expenses (Cash and Exchange) 8
Income From Capital and Non-Capital Items (Cash and Exchange) 18
Summary of Year's Business 24
Production of Feed Raised This Year 25
Disposal of Feed That Was on Hand and Was Raised This Year 25
Analysis by Enterprises 26
Special Conditions Affecting Income From Different Enterprises 27
Total Agricultural and Non-Agricultural Earnings 28
Total of Student's Net Income 28
Student's Financial Statement 29
Important Dates and Notes 30

ENTERPRISES FOR WHICH THIS RECORD IS KEPT:

(For a students last half of Ag. III and first half of Ag. IV)

Enterprises	Scope and unit	Column No. on expense and income pages
Corn	2 acres	8
Oats and lespedeza combination	2 acres	9
Permanent pasture	2 acres	10
Beef cattle	6 head	11
Swine	7 head	12
Broilers	24,000 h.	13
		14
		15

AGREEMENT FOR STUDENTS IN PRODUCTION AGRICULTURE

This agreement is entered into this 1st day of January, 1966, for a period of one year, by and between William Jones (Student) and Thomas E. Jones (Parent or Other Party) and covers the student's enterprises in production agriculture.

This agreement contains statements concerning responsibility for providing equipment, land, buildings, capital, and management; and the percent that is the student's share for each enterprise.

Student agrees to provide the following: *(Specify details by enterprises.)*

For corn, oats, lespedeza, and permanent pasture—personal labor, supplies, and management.

For beef cattle and swine—animals, supplies, feed, self labor, and management.

For broilers—self labor, 25 percent of operating expenses, and 25 percent of the equipment.

Student is to receive: *(Specify details by enterprises.)*

For corn, oats, lespedeza, permanent pasture, beef cattle, and swine—100 percent of the income.

For broilers—25 percent of the income. The broilers are to be produced on a guaranteed contract basis of 2½ cents per pound of broilers.

Parent or "other party" agrees to provide: *(Specify details by enterprises.)*

For corn, oats, lespedeza, and permanent pasture—land for cash and storage facilities, equipment, and family labor at a fair value in exchange for the student's self labor on the parent's farm.

For livestock—housing and equipment on same basis as for crops.

For broilers—housing on a 100 percent basis, and equipment on 75 percent.

Parent or "other party" is to receive: *(Specify details by enterprises.)*

Personal labor of the student on the farm, use of permanent pasture for one animal, and some produce for farm and family use in exchange for housing, equipment, and family labor for student's enterprises.

Seventy-five percent of the income from broilers.

Responsibility of vocational agriculture teacher: Teaching the student and supervising him in his farming program.

Signatures: William Jones (Student)
Thomas E. Jones (Parent or "other party")
R. J. Smith (Vocational agriculture teacher)

INVENTORY OF CROPS, FEED, SEED, AND SUPPLIES

Inventory all feed, seed, and supplies on hand by multiplying the quantity times the price at the farm. Also inventory unharvested crops on the basis of actual value at the time the inventory is made. For fall-seeded crops the value should be at least the cost of establishment. If the student has a record book for last year, the beginning inventory in this book must be the same as the ending inventory in last year's book.

Multiply values in columns 4 and 7 by percentages in column 8 and enter the figures in columns 9 and 10, respectively.

Item	Total for each item						Student's share		
	Beginning of year			End of year					
	Quantity & unit	Price per unit	Value	Quantity & unit	Price per unit	Value	Per cent	Beginning value	Ending value
1	2	3	4	5	6	7	8	9	10
Ear corn	102 bu.	$1.25	$127.50	106 bu.	$1.30	$137.80	100	$127.50	$137.80
Lespedeza hay	100 bales	.70	70.00	120 bales	.70	84.00	100	70.00	84.00
Cottonseed meal	200 lbs.	.03	6.00	100 lbs.	.03	3.00	100	6.00	3.00
Permanent pasture	2 acres	15.00	30.00	2 acres	25.00	50.00	100	30.00	50.00
Planted oats	2 acres	Cost	36.00	2 acres	Cost	37.60	100	36.00	37.60
Combined oats				40 bu.	1.00	40.00	100		40.00
Pasture-grass hay				60 bales	.60	36.00	100		36.00
Crushed corn				1,600 lbs.	.02	32.00	100		32.00
TOTALS (Carry forward to page 21)			$269.50			$420.40		$269.50	$420.40

INVENTORY OF LIVESTOCK AND POULTRY HELD FOR SALE AND HOME USE

Inventory all livestock and poultry held for sale and for home use by multiplying the quantity times the price at the farm. Livestock [illegible] sale include feeder stock. Inventory on page 6 livestock kept primarily for breeding or milk production. Omit columns 7 and 13 for those [illegible] acquired during the year, and omit columns 11 and 14 for those animals disposed of during the year. Leave column 3 blank for animals raised. If the student has a record book for last year, the beginning inventory in this book must be the same as the ending inventory in last year's book.

Multiply values in columns 7 and 11 by percentages in column 12 and enter the figures in columns 13 and 14, respectively.

			Total for each item								Student's share		
			Beginning of year				End of year						
Kind	Date acquired *	Cost if bought	Quantity No.	Quantity Pounds	Price per unit	Value	Quantity No.	Quantity Pounds	Price per unit	Value	Per cent	Beginning value	Ending value
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Beef steer	6-10-65	$ Raised	1	400	$ .21	$ 84.00			$	$	100	$ 84.00	$
Beef steer	12-1-65	70.00	1	400	.19	76.00					100	76.00	
Pigs	12-1-65	30.00	3	200	.18	36.00					100	36.00	
Beef steer	2-1-66	Raised					1	705	.24	169.20	100		169.20
Pigs	9-30-66	40.00					4	340	.18	61.20	100		61.20
Broilers	12-20-66	400.00					8,000		cost	495.83	25		123.96
TOTALS (Carry forward to page 24)						$ 196.00				$ 726.23		$ 196.00	$ 354.36

* When this illustration is used in subsequent years, the dates in column 2 should be adjusted so that they will bear the same relationship to the year in question as they now bear to 1966.

INVENTORY OF LIVESTOCK HELD FOR BREEDING AND DAIRY PURPOSES

Enter breeding and dairy stock on hand at the beginning of **the year, and then** add those acquired during the year. Omit columns 6 and 12 for those **items acquired** during the year. Omit columns 10 and 14 **for those items** sold during the year. If the student has a record book for last year, the **beginning** inventory in this book must be the same as the ending inventory in last year's book.

Depreciation in column 8 should be for the portion of the year that the items were on hand. Column 4 should be used for calculating depreciation when a salvage value of more than 10 percent of cost is claimed.

Multiply values in columns 6, 8, and 10 by percentages in column 11 and enter figures in columns 12, 13, and 14, respectively.

Kind	Date acquired *	Total cost if bought	Total cost less salvage value	Total for each kind						Student's share			
				Beginning of year		Method of depreciation	Depreciation this year	End of year		Per cent	Beginning value	Depreciation	Ending value
				Quantity	Value			Quantity	Value				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Beef cow	5-1-64	$300.00	$210.00	1	$230.00	St.L.-5	$ 42.00	0	$Traded	100	$230.00	$ 42.00	$ -0-
Beef heifer	12-2-64	Raised		1	150.00		-0-	1	250.00	100	150.00	-0-	250.00
Beef heifer	12-26-66	230.00	150.00	0		St.L.-7	-0-	1	230.00	100	-0-	-0-	230.00
TOTALS (Carry forward to page 24)					$380.00		$ 42.00		$480.00		$380.00	$ 42.00	$480.00

* When this illustration is used in subsequent years, the dates in column 2 should be adjusted so that they will bear the same relationship to the year in question as they now bear to 1966.

INVENTORY OF PERMANENT IMPROVEMENTS, MACHINERY, AND EQUIPMENT

Enter permanent improvements, machinery, and equipment on hand at the beginning of the year, and then add those acquired during the year. Omit columns 5 and 10 for those items acquired during the year. Omit columns 8 and 12 for those items sold during the year. If the student has a record book for last year, the beginning inventory in this book must be the same as the ending inventory in last year's book.

Depreciation in column 7 should be for the portion of the year that the items were on hand. Column 4 should be used for calculating depreciation when a salvage value of more than 10 percent of cost is claimed.

Multiply values in columns 5, 7, and 8 by percentages in column 9 and enter figures in columns 10, 11, and 12, respectively.

Items	Date acquired *	Total cost if bought	Total cost less salvage value	Total for each kind				Student's share			
				Beginning of year value	Method of depreciation	Depreciation this year	End of year value	Per cent	Beginning value	Depreciation	Ending value
1	2	3	4	5	6	7	8	9	10	11	12
Broiler house	1-1-65	$1,925.00	$1,600.00	$1,915.00	St.L.-20	$ 80.00	$1,835.00	-0-	$ -0-	$ -0-	$ -0-
Broiler house equip.	1-2-66	1,000.00	1,000.00	-0-	St.L.-10	100.00	900.00	25	-0-	25.00	225.00
Portable chute	3-31-66	80.00	80.00	-0-	St.L.-10	6.00	74.00	100	-0-	6.00	74.00
TOTALS (Carry forward to page 24)				$1,915.00		$ 186.00	$2,809.00		$ -0-	$ 31.00	$299.00

* When this illustration is used in subsequent yrs, the data in column 2 should be adjusted so that they will bear the same relationship to the year in question as they now bear to 1966.

OPERATING AND CAPITAL

These instructions apply to pages 8 through 17. Enter all expenses including (1) cash operating costs, (2) cash for machinery, breeding stock, and other depreciable property, and (3) the value of goods and services received (without a cash cost) in exchange for other goods and services.

Write the enterprises in the headings of columns 8-15 in the same order as recorded on page 2.

Enter in column 5 the amount for each item for which actual cash was paid, including grant-in-aid purchase orders. Enter in column 6 the value of the student's products, personal labor, etc., given in exchange for other products. Also enter in column 6 the appropriate charge for the use of equipment furnished by others (unless

Date	Expense items	Quantity and unit	Price per unit	Expenses		Total cash & exchange	Corn
				Cash	Exchange		
1	2	3	4	5	6	7	8
Jan. 1	Land rent	6 acres	$15.00	$ 90.00	$	$ 90.00	$ 30.00
2	Broiler house equip.			1,000.00		1,000.00	
2	Mineral mixture	150 lbs.	.03½	5.25		5.25	
2	Sacks	20	.15	3.00		3.00	
2	Cottonseed meal	½ ton	60.00	30.00		30.00	
2	Hammer mill use	1,500 lbs.	4.00/t.		3.00	3.00	
2	Hired labor	1 hr.	1.00	1.00		1.00	
4	Mixed feed	400 lbs.	3.91/cwt.	15.64		15.64	
4	Truck use	2 hrs.	1.00		2.00	2.00	
29	Veterinary service	1 visit	6.00	6.00		6.00	
29	Hammer mill use	1,500 lbs.	4.00/t.		3.00	3.00	
29	Family labor	1⅓ hrs.	.75		1.00	1.00	
29	Nails	10 lbs.	.12	1.20		1.20	
Feb. 3	Medicine			3.60		3.60	
19	6-12-12 fertilizer	800 lbs.	.02	16.00		16.00	16.00
19	Ammonium nitrate	800 lbs.	.03½	28.00		28.00	
19	Seed corn	20 lbs.	.20	4.00		4.00	4.00
19	Lespedeza seed	100 lbs.	.15	15.00		15.00	
19	Truck use	2 hrs.	1.00		2.00	2.00	1.00
Mar. 5	Tractor and equip. use	2 acres	4.00		8.00	8.00	8.00
5	Hired labor	3 hrs.	1.00	3.00		3.00	3.00
5	Chemical weed killer	20 gal.	.25	5.00		5.00	5.00
5	Hammer mill use	1,500 lbs.	4.00/t.		3.00	3.00	
5	Family labor	2 hrs.	.75		1.50	1.50	
5	Mixed feed	400 lbs.	.04	16.00		16.00	
5	Truck use	2 hrs.	1.00		2.00	2.00	
12	Tractor and drill use	4 hrs.	3.00		12.00	12.00	
12	Family labor	2 hrs.	.75		1.50	1.50	
14	Family labor	2 hrs.	.75		1.50	1.50	
31	Portable chute	1		80.00		80.00	
TOTALS (Carry forward to next page)				$1,322.69	$ 40.50	$1,363.19	$ 67.00

EXPENSES (CASH AND EXCHANGE)

student is operating on a share basis), family labor, gifts, etc., received in exchange for other considerations. Distribute the amounts in column 7, except for capital items purchased during the year, among the appropriate enterprises of columns 8-15. Certain expense items, such as repairs, should be prorated as accurately as possible among enterprises benefiting from the expense. Omit columns 8-15 for all capital items and use column 16 instead. Also inventory these capital items on pages 6 and 7.

Enter on these pages all cash expenses and non-cash exchanges for each enterprise although production is on a share basis. The student's share is calculated on page 24.

Carry forward totals to each succeeding page and enter the totals of the last expense page on page 24.

Distribution of operating expenses by enterprises (cash & exchange)							Capital expenses
Oats & l. 9	Per. pasture 10	Beef cattle 11	Swine 12	Broilers 13	14	15	16
$ 30.00	$ 30.00	$	$	$	$	$	$
							1,000.00
		3.50	1.75				
		3.00					
		30.00					
		3.00					
		1.00					
			15.64				
		1.50	.50				
		6.00					
		3.00					
		1.00					
		.80	.40				
		3.60					
14.00	14.00						
15.00							
.50	.50						
		3.00					
		1.50					
			16.00				
		1.00	1.00				
6.00	6.00						
0.75	0.75						
0.75	0.75						
							80.00
$ 67.00	$ 52.00	$ 61.90	$ 35.29	$	$	$	$ 1,080.00

See instructions on pages 8 and 9

OPERATING AND CAPITAL

Date	Expense items	Quantity and unit	Price per unit	Expenses Cash	Expenses Exchange	Total cash & exchange	Corn
1	2	3	4	5	6	7	8
	Totals brought forward		$	$1,322.69	$ 40.50	$1,363.19	$ 67.00
Apr. 9	Planting equip. use	4 hrs.	3.00		12.00	12.00	12.00
9	Hired labor	4 hrs.	1.00	4.00		4.00	4.00
16	Hammer mill use	2,000 lbs.	4.00/t.		4.00	4.00	
16	Family labor	1⅓ hrs.	.75		1.00	1.00	
16	Medicine			4.20		4.20	
May 12	Truck use (fair)	8 hrs.	1.00		8.00	8.00	
12	Mineral mixture	50 lbs.	.04	2.00		2.00	
12	Soybean meal	300 lbs.	.03	9.00		9.00	
12	Interest on bank note	400.00-6 mo.	6%	12.00		12.00	1.00
June 1	Ammonium nitrate	600 lbs.	.03¾	22.50		22.50	22.50
1	Family labor	5 hrs.	.75		3.75	3.75	3.75
1	Cultivating equip.	5 hrs.	2.00		10.00	10.00	10.00
4	Hammer mill use	2,000 lbs.	4.00/t.		4.00	4.00	
4	Hired labor	2 hrs.	1.00	2.00		2.00	
4	Mineral mixture	100 lbs.	.03½	3.50		3.50	
10	Combining oats	2 acres	6.00	12.00		12.00	
10	Truck use	4 hrs.	1.00		4.00	4.00	
10	Storage house use				2.00	2.00	
Jul. 7	Mowing pasture for hay	2.4 hrs	2.50		6.00	6.00	
8	Baling hay	100 bales	.15	15.00		15.00	
8	Truck use	4 hrs.	1.00		4.00	4.00	
8	Family labor	4 hrs.	.75		3.00	3.00	
18	Shavings	2 loads	10.00	20.00		20.00	
22	Baby chicks	8,000	.04½	360.00		360.00	
22	Medicine			12.00		12.00	
Aug. 9	Hammer mill use	2,000 lbs.	4.00/t.		4.00	4.00	
9	Hired labor	1½ hrs.	1.00	1.50		1.50	
Sept. 2	Mowing machine use	4 hrs.	2.50		10.00	10.00	
2	Hired labor	4 hrs.	1.00	4.00		4.00	
3	Hay baling	200 bales	.15	30.00		30.00	
3	Hired labor	2 hrs.	1.00	2.00		2.00	
3	Family labor	2 hrs.	.75		1.50	1.50	
3	Truck use	4 hrs.	1.00		4.00	4.00	
9	Limestone (applied)	2 tons	7.50	15.00		15.00	
TOTALS (Carry forward to next page)				$1,853.39	$ 121.75	$1,975.14	$ 120.25

EXPENSES (CASH AND EXCHANGE)

Distribution of operating expenses by enterprises (cash & exchange)							Capital expenses
Oats and l. 9	Per. pasture 10	Beef cattle 11	Swine 12	Broilers 13	14	15	16
$ 67.00	$ 52.00	$ 61.90	$ 35.29	$	$	$	$1,080.00
		4.00					
		1.00					
		4.20					
		7.00	1.00				
			2.00				
		9.00					
1.00	1.00	9.00					
		4.00					
		2.00					
		3.50					
12.00							
4.00							
2.00							
	6.00						
	15.00						
	4.00						
	3.00						
				20.00			
				360.00			
				12.00			
		4.00					
		1.50					
10.00							
4.00							
30.00							
2.00							
1.50							
4.00							
	15.00						
$ 137.50	$ 96.00	$ 111.10	$ 38.29	$ 392.00	$	$	$1,080.00

OPERATING AND CAPITAL

See instructions on pages 8 and 9

Date 1	Expense items 2	Quantity and unit 3	Price per unit 4	Expenses Cash 5	Expenses Exchange 6	Total cash & exchange 7	Corn 8
	Totals brought forward		$	$1,853.39	$ 121.75	$1,975.14	$ 120.25
Sept. 10	6-12-12 Fertilizer	1/2 ton	42.00	21.00		21.00	
10	Rye	4 bu.	3.00	12.00		12.00	
10	Crimson clover	50 lbs.	.24	12.00		12.00	
10	Inoculation	1 box	.75	.75		.75	
11	Hired labor	4 hrs.	1.00	4.00		4.00	
29	Electricity	1 house		34.29		34.29	
29	Feed consumed	49,502 lbs.	.048	2,376.12		2,376.12	
30	Feeder pigs	4 head	10.00	40.00		40.00	
Oct. 1	Hammer mill use	2200 lbs.	4.00/t		4.40	4.40	
1	Hired labor	1 1/2 hrs.	1.00	1.50		1.50	
1	Cottonseed meal	600 lbs.	.03	18.00		18.00	
1	Minerals	100 lbs.	.04	4.00		4.00	
1	Tankage	100 lbs.	.04	4.00		4.00	
7	Cleaning oats	8 bu.	.10	.80		.80	
7	6-12-12 Fertilizer	800 lbs.	42./t	16.80		16.80	
8	Tractor and equip. use	5 hrs.	3.00		15.00	15.00	
8	Hired labor	5 hrs.	1.00	5.00		5.00	
10	Shavings	2 loads	10.00	20.00		20.00	
11	Baby chicks	8000 h.	.05	400.00		400.00	
11	Medicine			17.00		17.00	
Nov. 26	Custom harvesting	2 ac.	8.00	16.00		16.00	16.00
26	Hired labor	5 hrs.	1.00	5.00		5.00	5.00
26	Family labor	5 hrs.	.75		3.75	3.75	3.75
26	Storage house				3.00	3.00	3.00
Dec. 17	Electricity	1 house		34.00		34.00	
17	Feed consumed	49,552 lbs.	.049+	2447.16		2447.16	
17	Insurance			26.30		26.30	
19	Shavings	2 loads	6.25	12.50		12.50	
20	Baby chicks	8000 h.	.05	400.00		400.00	
20	Medicine			5.50		5.50	
26	Beef heifer (bred)	1 head	230.00		230.00	230.00	
31	Electricity to date			6.50		6.50	
31	Feed consumed to date	1456 lbs.	.049	71.33		71.33	
TOTALS (Carry forward to next page)				$7,864.94	$ 377.90	$8,242.84	$ 148.00

EXPENSES (CASH AND EXCHANGE)

Distribution of operating expenses by enterprises (cash & exchange)							Capital expenses
Oats and l.	Per. pasture	Beef cattle	Swine	Broilers			
9	10	11	12	13	14	15	16
$ 137.50	$ 96.00	$ 111.10	$ 38.29	$ 392.00	$	$	$1,080.00
	21.00						
	12.00						
	12.00						
	.75						
	4.00						
				34.29			
				2,376.12			
			40.00				
		4.00	.40				
		1.25	.25				
		18.00					
		3.00	1.00				
			4.00				
.80							
16.80							
15.00							
5.00							
				20.00			
				400.00			
				17.00			
				34.00			
				2,447.16			
		10.00	2.00	14.30			
				12.50			
				400.00			
				5.50			
							230.00
				6.50			
				71.33			
$ 175.10	$ 145.75	$ 147.35	$ 85.94	$6,230.70	$	$	$1,310.00

PRECEDING PAGE MISSING

INCOME FROM CAPITAL AND NON-

These instructions for recording income apply to pages 18-23.

Write the enterprises for which this record is kept in the headings of columns 8-15 in the same order as recorded on page 2. Enter in column 2 the products sold or exchanged for other items and considerations including family consumption. Do not enter products used for the student's other enterprises. Enter in column 5 the amount from cash sales. Consider certain income, such as agricultural program payments or purchase orders, as cash income. Enter in column 6 the value of the student's products given to others and those used by family members.

Date	Income items	Quantity & unit	Price per unit	Income		Total cash & exchange	Corn
				Cash	Exchange		
1	2	3	4	5	6	7	8
May 12	Prize money on steer	2nd place	$	$ 20.00	$	$ 20.00	$
12	Steer	810 lbs.	.25	202.50		202.50	
12	Hogs	500 lbs.	19.72	98.60		98.60	
June 10	Oats	61.8 bu.	.80	34.44	15.00	49.44	
18	Steer	780 lbs.	.24	187.20		187.20	
July 8	Pasture hay	40 bales	.70		28.00	28.00	
Sept. 3	Lespedeza hay	100 bales	.80	80.00		80.00	
Sept. 9	Purchase order - rye	3 bu.	2.00	6.00		6.00	
9	" " limestone	2 tons.	5.33	10.66		10.66	
9	" " 6-12-12	240 lbs.	.036	8.64		8.64	
9	" " c. clover	50 lbs.	.14	7.00		7.00	
29	Broilers	22,901 lbs.	.14½	3,320.65		3,320.65	
Dec. 15	Pasture rent	2 ac.	10.00		20.00	20.00	
16	Corn	87 bu.	1.30	92.10	21.00	113.10	113.10
17	Broilers	23,868 lbs.	.14½	3,460.86		3,460.86	
26	Beef cow	1 head	230.00		230.00	230.00	
TOTALS (Carry forward to next page)				$7,528.65	$ 314.00	$7,842.65	$ 113.10

CAPITAL ITEMS (CASH & EXCHANGE)

Distribute the amounts in column 7 among the appropriate enterprises of columns 8-15. Lump-sum income, such as agricultural program payments, should be prorated among the appropriate enterprises. Omit from columns 8-15 sales of capital items, such as used machinery and breeding stock, but record them in column 16 instead. Also omit these capital items from page 6, columns 10 and 14, and page 7, columns 8 and 12.

Enter on these pages all income from an enterprise although it was produced on a share basis. The student's share is calculated on page 24.

Carry forward totals of each column to each succeeding page and enter totals of last income page on page 24.

Distribution of non-capital income (cash & exchange)							Capital income
Oats and l. 9	Per. pasture 10	Beef cattle 11	Swine 12	Broilers 13	14	15	16
$	$	$ 20.00	$	$	$	$	$
		202.50					
			98.60				
49.44							
		187.20					
	28.00						
80.00							
	6.00						
	10.66						
	8.64						
	7.00						
				3,320.65			
	20.00						
				3,460.86			
							230.00
$129.44	$ 80.30	$409.70	$ 98.60	$6,781.51	$	$	$ 230.00

PRECEDING PAGE MISSING

SUMMARY OF YEAR'S BUSINESS

Section I. Summary of the Year's Inventories

Transfer to this section the totals of the inventory accounts from pages 4-7. If the student owns a fixed share of one class of inventory, enter the total investments in columns 4 and 5, and the student's share in columns 6 and 7. When the student owns 100 percent interest. his share will be identical to the "total."

Line No.	Kind of inventory	From page No.	Total investments		Student's Share	
			Beginning	Ending	Beginning	Ending
1	2	3	4	5	6	7
1	Crops, feed, seed, and supplies	4	$ 269.50	$ 420.40	$ 269.50	$ 420.40
2	Livestock and poultry held for sale and home use	5	196.00	726.23	196.00	354.36
3	Livestock held for breeding and dairy purposes	6	380.00	480.00	380.00	480.00
4	Permanent improvements, machinery, and equipment	7	1,915.00	2,809.00	-0-	299.00
5	Totals (lines 1-4)		$2,760.50	$4,435.63	$ 845.50	$1,553.76
6	Gain or loss in investments (+ or —)		$ + 1,675.13		$ +708.26	

Section II. Summary of the Year's Expenses and Income (Cash & Exchange)

Transfer the totals from pages 8-17 and 18-23, respectively, to columns 4 and 5. When the student's share of any one enterprise is less than 100 percent, determine the student's share for each and enter in columns 7 and 8.

Line No.	Enterprises from pp. 8-23	From col. No.	Total		Student's Share		
			Expenses	Income	%	Expenses	Income
1	2	3	4	5	6	7	8
7	Corn	8	$ 148.00	$ 113.10	100	$ 148.00	$ 113.10
8	Oats and lespedeza	9	175.10	129.44	100	175.10	129.44
9	Permanent pasture	10	145.75	80.30	100	145.75	80.30
10	Beef cattle	11	147.35	409.70	100	147.35	409.70
11	Swine	12	85.94	98.60	100	85.94	98.60
12	Broilers	13	6,230.70	6,781.51	25	1,557.68	1,695.38
13		14					
14		15					
15	Capital items	16	1,310.00	230.00	☒	310.00	230.00
16	Totals (lines 7-15)		$8,242.84	$7,842.65		$2,569.82	$2,756.52
17	Net cash income (gain or loss; + or —)		$ −400.19			$ +186.70	
18	Change in inventory (gain or loss; + or —)		$ +1,675.13			$ +708.26	
19	Net farm income (gain or loss; + or —)		$ +1,274.94			$ +894.96	

Section I. PRODUCTION OF FEED RAISED THIS YEAR

As each item of feed is harvested, the production should be determined and entered in the table below. This information is needed for determining the yield per acre and for allocating in Section II of this page the amount consumed.

Kind of feed produced	Acreage	Total production	Yield per acre
Corn	2	222 bu.	111 bu.
Oats	2	126 bu.	63 bu.
Lespedeza hay	(2)	200 bales	100 bales
Pasture grass hay	(2)	100 bales	50 bales
Pasture grass	2	grazed	

Section II. DISPOSAL OF FEED THAT WAS ON HAND AND WAS RAISED THIS YEAR

Column 2 describes the sources of feed and methods of disposition. List in columns 3-10 the kinds of feed to be prorated. For each kind of feed, enter the quantity on lines 1-9, calculate the values at the prevailing farm price, and enter on lines 8 and 9. The major function of this table is to determine and place on line 8 the amount of feed fed to livestock and to allocate on lines 9a, b, c, and d the amount fed to each kind of livestock.

The values on lines 8 and 9 for each kind of feed will be needed on page 26 of this book for the purpose of determining the net returns for each enterprise in the student's program.

Line No. 1	Source and disposition of feed 2	Quantity and value by kinds of feed							
		Corn		Oats		Lespedeza hay		Pasture and hay	
		Amt. 3	Value 4	Amt. 5	Value 6	Amt. 7	Value 8	Amt. 9	Value 10
1	Beginning inventory (from page 4)	bu. 102		bu. -0-		bales 100		2 ac. 0 bales	
2	Feed raised this year (from page 25 upper table)	222		126		200		(2) ac. 100 bales	
3	Totals (lines 1 & 2)	324		126		300		2 ac. 100 bales	
4	Ending inventory (from page 4)	126		40		120		(2) ac. 60 bales	
5	Feed sold this year (from pages 18-23)	87		61.8		100		40 bales	
6	Used for seed	-0-		8		-0-		-0-	
7	Totals (lines 4-6)	213		109.8		220		(2) ac. 100 bales	
8	Fed (line 3 minus line 7)	111	$133,20	16.2	$12.96	80	$ 48,00	2 ac.	$ 48,00
9	Fed to:								
	a. Beef cattle	111	133,20	16.2	12.96	80	48.00	2 ac.	48.00
	b.								
	c.								
	d.								
10	Totals fed (must be same as line 8)	111	$133.20	16.2	$12.96	80	$48.00	2 ac.	$48.00

ANALYSIS BY ENTERPRISES

The source page, line, and column are indicated in columns 3, 4, 5, and 6. In columns 7-15 make an analysis for either the total business or the student's share. Both analyses may be necessary, but duplicate forms will be needed.

When making the "total business" analysis, ignore column 6 and use column 5. Non-cash entries, such as corn, pasture, and manure, must have identical totals in column 7 for items 4 and 9. The net returns of item 11, column 7, must be the same amount as on page 24, line 19, column 5.

When making the "student's share" analysis, ignore column 5 and use column 6. Enter only the student's share of capital sales and purchases in items 2 and 7. The student's percentages are given on pages 6 and 7. Non-cash entries for items 4 and 9 must be identical. The net returns for column 7 of item 11 must be the same amount as on page 24, line 19, column 8.

Item No.	Item	From				Total amount	Enterprises from pages 8-23							
		P	L	C	C		Corn	Oats + l.	Per. pasture	Beef cattle	Swine	Broilers		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Cash income	24	7 to 14	5	8	$ 7,612.65	$ 113.10	$ 129.44	$ 80,30	$ 409.70	$ 98.60	$ 6,781.57	$	$
2	Capital sales	18 to 23		16	16	230.00	-0-	-0-	-0-	230.00	-0-	-0-		
3	Ending inventory	4		7	10	420.40	169.80	161.60	86.00	3.00				
		5		11	14	726.23				169.20	61.20	495.83		
		6		10	14	480.00				480.00				
		7		8	12	2,809.00				74.00		2,735.00		
4	Non-cash:	25	9	4	4	133.20	133.20							
		25	9	6	6	12.96		12.96						
		25	9	8	8	48.00		48.00						
		25	9	10	10	48.00			48.00					
	Manure	26	9			20.00						20.00		
5	Total income	26	1 to 4			$ 12,540.44	$ 416.10	$ 352.00	$ 214.30	$ 1,365.90	$ 159.80	$ 10,032.34	$	$
6	Cash expenses	24	7 to 14	4	7	6,932.84	148.00	175.10	145.75	147.35	85.94	6,230.70		
7	Capital purchases	6		3	3	230.00				230.00				
		7		3	3	1,080.00				80.00		1,000.00		
8	Beginning inventory	4		4	9	269.50	127.50	106.00	30.00	6.00				
		5		7	13	196.00				160.00	36.00			
		6		6	12	380.00				380.00				
		7		5	10	1915.00						1,915.00		
9	Non-cash:	25	9	4	4	133.20				133.20				
		25	9	6	6	12.96				12.96				
		25	9	8	8	48.00				48.00				
		25	9	10	10	48.00				48.00				
	Manure	26	4			20.00	20.00							
10	Total expenses	26	6 to 8			$ 11,265.50	$ 295.50	$ 281.10	$ 175.75	$ 1,245.51	$ 121.94	$ 9,145.70	$	$
11	Net returns (item 5 minus 10)					$ 1,274.94	$ 120.60	$ 70.90	$ 38.55	$ 120.39	$ 37.86	$ 886.64	$	$

SPECIAL CONDITIONS AFFECTING INCOME FROM DIFFERENT ENTERPRISES

Name of enterprise	Statements of special conditions affecting income
Corn	Favorable moisture and fertile land contributed much to a high yield of corn, with a minimum of cost. Most of the labor of production was hired labor and custom work. This tended to reduce net returns.
Oats and lespedeza	The high quality and value of lespedeza hay contributed to the net returns from the oats and lespedeza combination. A cold winter reduced the stand of oats and caused a loss in the yield and net returns from oats.
Permanent pasture	The growth of the mixture was not good during the first of the year; the yield of grass hay, consequently, was poor. Most of the net returns from the pasture is reflected in the beef cattle net returns.
Beef cattle	It was decided to replace the old beef cow with a younger animal. She was traded for a bred beef heifer of the same value. Prize money contributed to the net returns from steers.
Swine	The pigs were produced with purchased feed and a minimum of grazing. Low gains and high feed costs contributed to a low net returns from the swine enterprise.
Broilers	A high efficiency of production and a high percent of live birds contributed to a good net returns from broilers. The 2½ cents per pound guarantee was an important factor in the net returns.

Section I. TOTAL AGRICULTURAL AND NON-AGRICULTURAL EARNINGS

Enter in column 2 the kinds of agricultural earnings of the student other than those entered on pages 8-23 of this book. Student's labor on the farm given in exchange for use of equipment, family labor, and other considerations which were charged as cash expenses on pages 8-17 would be an item of agricultural income to record. Include income from custom work and a value for student's equipment used by the family. Do not include in this record the value of a commodity exchanged for another commodity. Calculate net income in columns 3, 4, and 5.

Date	Kind of earnings	Agricultural net income other than from student's enterprises		
		Income	Expenses	Net income
1	2	3	4	5
June 1 to Sept. 1	Self labor of the student for the operation of the parent's equipment for custom work.	$ 168,00	$ 10,00	$ 158,00
Jan. 1 to Dec. 31	Value of self labor on parents farm in exchange for equipment use, etc.	377.90	314.00	63.90
	TOTALS	$ 545.90	$ 324.00	$ 221.90

Enter in column 2 of the following table, the student's earnings of a non-agricultural nature. Calculate net income and enter in columns 3, 4, and 5.

Date	Kind of earnings	Non-agricultural net income		
		Income	Expenses	Net income
1	2	3	4	5
June 1 to Sept. 1	Self labor for part-time work as a Mechanic at Smith's garage	113.60	22.10	91.50
Dec. 31	Interest on bank certificates	22.50	-0-	22.50
	TOTALS	$ 136,10	$ 22.10	$ 114.00

Section II. TOTAL OF STUDENT'S NET INCOME

Student's Net Income From Page 24 (line 19) .... $ 894.96

Agricultural Net Income From Upper Table of This Page .... $ 221.90

Non-Agricultural Net Income From Lower Table of This Page .... $ 114.00

Total of Student's Net Income From All Sources $1,230.86

STUDENT'S FINANCIAL STATEMENT

I. Assets	Beginning Date Jan 1, 1966	Ending Date Dec. 31, 1966
1. Total inventory value (p. 24, Section I, line 5, columns 6 and 7)	$ 845.50	$ 1,553.76
2. Accounts receivable	108.10	91.72
3. Cash on hand	10.80	4.38
4. Accounts at the bank (checking plus savings)	641.10	500.00
5. Other investments (bonds, cash value of life insurance, postal savings, etc.)	380.00	380.00
6. Other property owned (specify):		
Automobile	480.00	400.00
Set of mechanics' tools	100.00	90.00
Shot gun	80.00	75.00
A. TOTAL ASSETS	$2,645.50	$3,094.86
II. Liabilities		
1. Unpaid bills	101.00	42.80
2. Accounts payable (notes and mortgages)	400.00	706.00
3. Liens		
4. Other liabilities (specify):		
B. TOTAL LIABILITIES	$ 501.00	$ 748.80
C. NET WORTH (A minus B)	$2,144.50	$2,346.06
D. CHANGE IN NET WORTH (+ or —)		$+201.56

IMPORTANT DATES AND NOTES

1. Be sure to keep a daily account of expenses and receipts in connection with my supervised farming program, and make frequent entries in my record book.

2. Get ready to pay the bank note, which will be due on May 12.

3. The cow is bred so that she will calve around June 10.

4. Get a contract for broiler production. This should be done by June 15.

5. Plan to attend the F.F.A. Convention on July 11-15.

6. Fill out the State Farmer application, and submit it by May 12.

7. Make all arrangements for attending the National F.F.A. Convention in October, as National Farm Mechanics winner.

8. On December 15 check all cash expenses and income, both from my supervised farming program and from all other sources. Make plans for the necessary cash purchases and sales by the end of the year.

Chapter V

EXPLANATIONS OF ENTRIES AND PROCEDURES USED IN THE ILLUSTRATION

A good practice with every new project is to read instructions. Have the printed instructions in the record book been read? If not, they should be read on each page before the illustration is studied.

A. EXPLANATIONS OF PROCEDURES IN RECORD KEEPING

Comments in Chapter V are identified by the record book page numbers in the illustration in Chapter IV and by other references to entries.

Page 2—Enterprises for Which This Record Is Kept

This record was kept for the calendar year and for the parts of two school years that occurred during the calendar year. The record, therefore, was kept for enterprises started during the latter part of the student's third year and continued for the first part of his fourth year. The list of enterprises and the scope of each were brought forward on January 1 from last year's book and were added to during this calendar year as the supervised farming program was expanded.

The enterprises listed on page 2 are for all those that were produced during any part of the current calendar year—those in operation during the latter half of the student's third year and the first half of his fourth year. The list could not be completed until the end of the calendar year. Also, enterprises may be completed during the year; in such cases they will not be transferred to the following year's record book.

The scope is the number of units included during the year. Some units were completed and others were started; both were counted. When the young were born, the mother and the young were counted. Since the scope of some enterprises changed during the year, it was corrected at the end of the year.

The enterprises and scope of each were listed as follows:

1. The corn on two acres was produced during the latter part of the student's third year and the first part of his fourth year of vocational agriculture.

2. The two acres of oats were seeded in the fall of the student's third year and were transferred from last year's book to page 2 of this book at the beginning of the year. The two acres of oats were continued by planting again in the fall of his fourth year. This record, therefore, involves two crops of oats on two acres of land.

3. The permanent pasture of two acres, which was begun during previous years, was transferred from last year's book and was produced throughout the current year.

4. Four head of the beef cattle were transferred from last year's book. Two other head were added during this year: one in the spring when the student was in his third year and the other in the fall when he was in his fourth year. A scope of six head was listed on page 2 for the entire calendar year.

5. Three head of pigs were transferred from last year's book. These were sold, and four other head were added in the fall, the total listing being 7 head for the year.

6. The broiler enterprise was begun in July of the fourth year. Some of the facilities, however, were on hand throughout the year. The scope is 24,000 birds; 16,000 were grown and sold during the year. The other 8,000 were purchased late in the year and will be transferred to and completed in next year's record book.

Page 3—Agreement

The student's responsibilities and income for each enterprise, as well as those of the parent, were briefly stated on page 3. With the exception of the broiler enterprise, the student is operating on a 100 percent income and expense basis. The cost of the parents' machinery and family labor is to be charged as an exchange item for personal (self) labor of the student on the parents' farm. The broiler enterprise is to be operated on a 25 percent share basis. The parent is to furnish the house and 75 percent of all other expenses. The student is to furnish 25 percent of all expenses except the house. Broilers are produced under a contract with a supplier. Proceeds to the grower are divided between the student and his parent, the student receiving 25 percent.

Pages 4, 5, 6, and 7—Beginning-of-Year Inventories

The beginning-of-year inventory for each item on each inventory page was transferred from the end-of-year inventory in last year's book.

Page 4—beginning-of-year inventory of crops, feed, seed, and supplies. There were three items of harvested crops, feed, and two growing crops on hand on January 1, which were transferred from the end-of-year inventory of last year's book. The corn, lespedeza hay, cottonseed meal, permanent pasture, and seeded oats were listed in column 1; their quantities of 102 bushels, 100 bales, 200 pounds, 2 acres, and 2 acres, respectively, were entered in column 2; and their values of $127.50, $70, $6, $30, and $36, respectively, were entered in column 4.

Page 5—beginning-of-year inventory of livestock and poultry held for sale and home use. The two steers and three pigs for sale were described in column 1. The date that each was purchased or born was entered in column 2. The purchase cost was entered in column 3. The number, weight, and value of each kind at the beginning of the year were entered in columns 4, 5, and 7. The values recorded were $84 and $76 for the two steers and $36 for the three pigs.

Page 6—beginning-of-year inventory of livestock held for breeding and dairy purposes. The beef cow and heifer for breeding stock were entered in column 1, and the date of purchase was entered in column 2. The $300 cost of the cow was entered in column 3. The salvage value of the beef cow was set at $90, and the $210 ($300.00 minus $90.00) was entered in column 4. The annual depreciation is $210 divided by 5 years, or $42. The eight months depreciation during the year of purchase (May 1-December 31) is $42 x 8/12 of the year, or $28. Prior depreciation, therefore, is $42 plus $28, or $70. The beginning-of-year values of $230 ($300.00 minus prior depreciation of $70.00) for the cow and the $150 for the heifer were entered in column 6.

Page 7—beginning-of-year inventory of permanent improvements, machinery, and equipment. The broiler house was on hand on January 1. This item was entered in column 1. The cost of the house was $1,995. A salvage value of $395 was set, and the cost less salvage value of $1,600 was entered in column 4. The beginning value of $1,915 ($1,995.00 minus $80.00, depreciation for 1965) was entered in column 5.

Pages 8-17—Operating and Capital Expenses

The enterprises of corn, oats and lespedeza combination, permanent pasture, beef cattle, swine, and broilers were written at the top of columns 8-15 on pages 8 and 9 in the order shown on page 2. These enterprises were also written at the top of their respective columns on additional pages needed for recording all the expenses for them.

Three kinds of expenses were recorded on pages 8-17: (1) cash purchases for operating expense items, (2) operating expense items furnished by the family in exchange for the student's labor or farm commodities, and (3) capital (cash or exchange) expenditure items. The instructions given at the top of pages 8 and 9 were followed in making the expense item entries on pages 8-17 of the record book. Feed consumed by the student's livestock from the student's inventory or from this year's production was reported on page 25 rather than on pages 8-17.

As each expense was incurred, it was described in column 2 of the expense pages. The dates in column 1 are consecutive for the year. Often the same date appears for many lines because several items were purchased on the same date.

Since the quantity and the price per unit may be different for various items, a separate line was used for listing each item. Careful descriptions were used in the listing of items. Fertilizer was described as 6-12-12 and ammonium nitrate, not fertilizer alone.

Land rent for the six acres was the first expense item listed. According to the agreement the student is to receive 100 percent of the income from crops and is to pay for 100 percent of the expenses, including cash land rent. Six acres at $15 per acre is a cost of $90, which was recorded in column 5, page 8, as a cash expense for this student, and in column 7. According to the instructions on page 9, the $90 was distributed among the appropriate enterprises in columns 8-15. In some programs for certain other students, the land rent could be charged as an exchange rather than as a cash expense in keeping with such an agreement.

New broiler house equipment was purchased on January 2. This item was entered as a capital expense of $1,000 in columns 5, 7, and 16. The cost was entered in column 16 instead of 13 because only the depreciation on the equipment will be charged to the broilers for this year; therefore, the $1,000 was entered on page 7 of the record book, also. The depreciation and the end-of-year value were figured and entered in columns 7, 8, 11, and 12 of page 7.

The other expense items were entered on these pages in the same manner as described for land rent, except the cost of certain items, such as hammer mill and family labor, was charged in the exchange column 6. These items were entered as exchange according to the agreement on page 3, which stated that the parent would furnish equipment and family labor at prevailing rates in exchange for student's personal (self) labor on the parent's farm.

All exchange charges in column 6 are included with cash expenses in column 7. When charges from column 7 were prorated among the various enterprises in columns 8-16, the exchange and cash identity were disregarded.

The cost of the baby chicks and medicine was entered in column 5. It was necessary, however, to calculate the feed expense for the broilers after the broilers had been sold because the contract with the feed company guaranteed 2½ cents per pound of live weight of bird to the producer for the broilers after chicks, medicine, and feed cost were paid. The feed cost, therefore, was calculated after sales were made.

On the 29th of September, 22,901 pounds of broilers were sold at 14½ cents per pound for $3,320.65 (see page 18). The feed cost was calculated as follows:

22,901 pounds of broilers times 14½ cents per pound=$3,320.65 (see page 18).

22,901 pounds times 2½ cents per pound=$572.53. This is the net amount guaranteed to the producers.

$3,320.65 minus $572.53=$2,748.12. This is the contractor's allowable cost for chicks, medicine, and feed to the producer. These are the only items that the contractor provided.

$2,748.12 minus ($360.00 chick cost + $12.00 medicine)=$2,376.12. This is the assessed cost of feed consumed by the broilers.

49,502 net pounds of feed were consumed by this batch of broilers which was calculated to cost $.048+ per pound ($2,376.12÷49,502 lbs.).

The feed expense for the second batch of broilers was calculated in the same manner as for the first.

23,868 pounds times 14½ cents per pound=$3,460.86 (see page 18). This is the value of broilers sold.

23,868 pounds times 2½ cents per pound=$596.70. This is the net amount guaranteed to the producer.

$3,460.86 minus $596.70=$2,864.16. This is the allowable cost for chicks, medicine, and feed to the producers.

$2,864.16 minus $417.00 ($400.00+$17.00)=$2,447.16. This is the assessed cost of the feed consumed by the broilers.

$2,447.16÷49,552 net pounds of feed consumed by the second batch of broilers=$.049+per pound of feed.

The cost of broilers, shavings, medicine, electricity, and feed consumed to the end of the year was entered on page 12, column 5, for the third batch of broilers. The cost figures were as follows: chicks, $400; shavings, $12.50; medicine, $5.50; electricity, $6.50; and feed, $71.33. The total of these expenses ($495.83) was entered as ending inventory on page 5, column 11, and will be charged against broilers in the form of beginning inventory in next year's book.

The beef heifer purchased on December 26 for $230 and entered on page 12 was a capital expense and was treated in the manner described for the broiler house equipment by placing it in column 16, page 13, and also on page 6.

Each column 5-16 was totaled on each page, and the totals were carried forward to the top of their respective columns on the next page. By using this plan, the final total on the last pages is the sum of all entries in a column and will be carried forward to page 24 when the summary on page 24 is developed.

A check was made on the totals of page 8 before carrying them forward to the next page. The total for column 7 is $1,363.19. This was obtained by adding all the figures in column 7. Columns 5 plus 6 must equal 7 ($1,322.69+$40.50=$1,363.19). Columns 8 through 16 must also equal 7 ($67.00+$67.00+$52.00+$61.90+$35.29+$1080.00=$1363.19). Likewise, this check was made on each page of the expense record.

When the final expense totals on pages 12 and 13 were checked, they were transferred to page 24.

Pages 18-23—Income from Capital and Non-Capital Items

The enterprises were recorded in the top of columns 8-15 on the income pages in the same order as on previous expense pages.

Three kinds of income entries were made on the income pages: (1) items sold for cash, (2) items given in exchange for other benefits received by the student for his farming program, and (3) capital items sold or exchanged. Products used by the student for certain of his enterprises, such as the student's corn fed to his beef cattle, were entered on page 25. Each income item of the kinds listed above was entered in column 2. For example, on May 12 a steer and some hogs were sold. They were described on separate lines. The weight was entered in column 3, the price in column 4, and the amounts of $202.50 and $98.60 were entered in column 5. The cash values were also entered in columns 7, 11, and 12.

On July 8 the pasture hay was given to the parent in exchange for other items furnished by the parent. This income of $28 was entered in columns 6, 7, and 10.

For other income items, such as the oats on June 10 and the corn on December 16, a split income credit was made. A portion of each was sold for cash and a portion was given in exchange. The divisions are seen in columns 5 and 6. The total for oats of columns 5 and 6 ($34.44+$15.00=$49.44) was entered in column 7 and was credited to the oats in column 9; and the total for corn of $113.10 ($92.10+$21.00) was entered in column 7 and credited to the corn in column 8.

The beef cow on December 26 was exchanged for a bred heifer. Since the bred heifer was charged as a capital expense on pages 12 and 13, the brood cow was credited as capital income on pages 18 and 19. The $230 value was entered in columns 6, 7, and 16.

All columns were totaled and a check for accuracy was made on pages 18 and 19 in the same manner as described for pages 8 and 9. Columns 5 plus 6 must equal 7 ($7,528.65+$314.00=$7,842.65). Also, columns 8 through 16 must equal 7 ($113.10+$129.44+$80.30+$409.70+$98.60+$6,781.51+$230.00=$7,842.65).

Pages 4, 5, 6, and 7—End-of-Year Inventories

In practice, the closing inventories are recorded after all receipts and expenses for the year are recorded. For that reason this discussion returns to inventories and describes them as entered on pages 4, 5, 6, and 7 for the end of the year.

Not all corn, oats, hay, beef cattle, swine, and broilers were sold or used during the year. The left-overs were inventoried on pages 4-7.

Page 4—end-of-year inventory of crops, feed, seed, and supplies. The corn, lespedeza hay, cottonseed meal, permanent pasture, and seeded oats had already been entered in column 1 on January 1 because such items were on hand at the beginning of the year; therefore, an end-of-year inventory was made for each and was entered in column 7. The values in column 7 of $137.80, $84, $3, $50, and $37.60, respectively, were determined by multiplying the quantity for each of the items in column 5 by its price per unit in column 6.

In addition, combined oats, pasture-grass hay, and crushed corn were also on hand at the end of the year. These items were added to the description in column 1. The actual quantity of each item on hand was entered in column 5; the price per unit was determined in keeping with the instructions at the top of page 4 and was entered in column 6; and the values were entered in column 7 as $40 for oats, $36 for pasture-grass hay, and $32 for crushed corn.

Since the items in this inventory were owned 100 percent by the student, the entries in columns 9 and 10 were the same as those recorded in columns 4 and 7, respectively, for each item.

Page 5—end-of-year inventory of livestock and poultry held for sale and home use. Two steers and three pigs have already been entered in column 1 of page 5. None of these animals were on hand at the end of the year; columns 8-11, therefore, were left blank for them. A steer, however, that was born on February 1, 4 pigs that were purchased on September 30, and 8,000 broilers that were purchased on December 20 were described in column 1 below those items listed that were on hand at the beginning of the year.

The number, pounds, price per unit, and value for each item at the end of the year were entered in columns 8, 9, 10, and 11 in keeping with the instructions at the top of page 5.

The end-of-year value of broilers in column 11 is based on cost to the end of the year. In the illustration on page 13, the cost record was $495.83 (chicks—$400.00+shavings—$12.50+medicine—$5.50+electricity—$6.50+net feed consumed—$71.33=$495.83).

All of the items except the broilers were owned 100 percent by the student, and the figures in columns 7 and 11 for these items except the broilers were entered in columns 13 and 14, respectively. The student, however, owned only 25 percent interest in the broilers. The value of broilers, therefore, in column 11 times 25 percent gave $123.96 to be entered in column 14 for this item.

Page 6—end-of-year inventory of livestock held for breeding and dairy purposes. The beef cow which was on hand at the beginning of the year was exchanged during the year for a $230 bred beef heifer (see page 18); therefore, there was no ending inventory in column 10 for the beef cow. The depreciation for the beef cow was $42 for the year ($210.00, cost less salvage value, divided by 5=$42.00). For depreciation purposes this cow was owned for the full year (until December 26). The bred beef heifer for which the cow was exchanged (see pages 12 and 13) was entered in column 1 on the same date that she was acquired. The exchange price of $230 was entered in column 3, and the cost less salvage of $150 was entered in column 4. The bred heifer will be depreciated by the straight line with a 7-year life. No depreciation, however, was claimed for this year, since she was purchased on December 26. The end-of-year value for column 10, therefore, is the same as the cost of $230.

The other beef heifer which was raised had a beginning-of-year value of $150. No depreciation is allowable on this raised (not purchased) animal. The animal, however, increased to a value of $250 during the year, and this value was entered in column 10.

Since the student has 100 percent interest in the three breeding cattle, the end-of-year values in column 14 are the same as recorded in column 10.

Page 7—end-of-year inventory of permanent improvements, machinery, and equipment. The broiler house was inventoried as a beginning-of-year inventory on page 7 because it was on hand as an end-of-year inventory in last year's book. The broiler house, which was on hand for the entire year, was depreciated by $80 for the year in column 7 ($1,600.00, cost less salvage value in column 4, divided by 20-year life, in column 6=$80.00). The depreciation of $80 was subtracted from the $1,915, beginning-of-year value, to give the $1,835, end-of-year value for column 8. No entries were made in columns 10, 11, and 12 because the house was owned only by the parent.

The broiler house equipment which was purchased at the beginnning of the year was entered on pages 8 and 9. It was also entered on page 7. It was described in column 1 and dated in column 2; the cost of $1,000 was entered in column 3. No salvage value was claimed; therefore, the cost less salvage value of $1,000 was entered in column 4. The depreciation was $100 ($1,000.00 divided by 10 years) and was entered in column 7.

The portable chute was first entered on pages 8 and 9 and then on page 7. The date purchased was entered in column 2, and the cost of $80 was entered in column 3. There was no salvage value anticipated; therefore, the cost less salvage of $80 was entered in column 4. The depreciation of $6 for the part of the year the chute was kept ($80.00 divided by 10 years times ¾ year) was entered in column 7. The end-of-year value of $74 ($80.00 cost less $6.00 depreciation) was entered in column 8.

The student owned 25 percent interest in the broiler house equipment; therefore, his end-of-year inventory value in column 12 for this item was $225 ($1,000.00 times 25 percent). Since the student owned 100 percent interest in the chute, his end-of-year inventory value for column 12 was the same as that for column 8.

B. EXPLANATIONS OF PROCEDURES USED IN MAKING THE SUMMARY AND THE ENTERPRISE ANALYSIS

After the close of the year and after the columns on pages 4-23 have been totaled, the summary and the analysis should be made. The following explanation shows how it was done in the illustration.

Page 24—Summary of the Year's Business

Section I—summary of the year's inventories. In Section I of page 24 the entries for lines 1-4 were transferred from pages 4, 5, 6, and 7. The title of each inventory page is printed in the second column of Section I.

On line 1 the total investments and the student's share that were entered in columns 4, 5, 6, and 7 were transferred from the last line of page 4 ($269.50 to column 4; $420.40 to column 5; $269.50 to column 6; and $420.40 to column 7). A similar procedure for the other three inventory items was followed on lines 2, 3, and 4.

Lines 1-4 for columns 4, 5, 6, and 7 were added and the totals were entered on line 5.

The gain or loss in investments for line 6 was found by subtracting the smaller total in columns 4 and 5 from the larger ($4,435.63 minus $2,760.50=$1,675.13). The + sign was used because there was an increase in column 5 over column 4. Likewise, for the student's share, the smaller total in columns 6 and 7 was subtracted from the larger ($1,553.76 minus $845.50=$708.26). The + sign was used because there was a gain in investments in column 7 over column 6.

Page 24, Section II—summary of the year's expenses and income. In Section II of page 24 the enterprises were written in column 2 in the same order on lines 7-12 as they appear on pages 8-23, so that each number in column 3 corresponds to the column number for each enterprise on pages 8-23.

The total expense on each line of column 4 was taken directly from the corresponding total for each column, 8-15, of the last page of expenses ($148.00 from column 8 of page 12, $175.10 from column 9, page 13, and so on) until all the transfers were made. The capital expense of $1,310 on line 15 was taken from the total in column 16 of the last expense page.

Likewise, the total income figure for each line of column 5 was taken directly from the corresponding total for each column 8-15 of the last pages for income ($113.10 from column 8 of page 18, $129.44 from column 9, and so on). The income for the capital item of $230 was taken from the total of column 16 on page 19.

The figures on lines 7-15 of columns 4 and 5 were added, and the totals were entered on line 16 for each column. The totals were $8,242.84 for the expenses of column 4 and $7,842.65 for the income of column 5. These figures are the same as the totals of column 7 of pages 12 and 18.

It should be noted that the student's share for Section 1 of page 24 was transferred as totals from the preceding pages. The student's share for Section II, however, was calculated individually on page 24 for each enterprise, in keeping with the agreement for each enterprise as recorded on page 3.

All of the enterprises except broilers were owned 100 percent by the student. The expense and income figures in columns 7 and 8, lines 7-11, therefore, were copied from the corresponding lines of columns 4 and 5. For the student's share of broiler expenses and income on line 12, 25 percent of the entries in columns 4 and 5 were taken ($6,230.70×25%=$1,557.68) for column 7, line 12, and ($6,781.51×25%=$1,695.38) for column 8.

Page 24, lines 17, 18, and 19—net cash income and net farm income. The total net cash income, which may be either a gain or a loss, was found by subtracting the smaller total from the larger on line 16 of columns 4 and 5 ($8,242.84 minus $7,842.65=—$400.19). The net cash income was a loss and the $400.19 is preceded by a minus (—) sign.

The student's share of the net cash income was calculated in the same manner as described above ($2,756.52 minus $2,569.82=$186.70). A + sign was used because there was an increase in the total of column 8 over column 7. The increase in "student's share" compared with a decrease in columns 4 and 5 came about because the student purchased only 25 percent of the $1,000 for broiler equipment.

The net farm income on line 19 combines inventories in Section I and net cash income in Section II. Totals on line 6 of Section I were transferred to line 18 of Section II; then the two were combined on line 19. In this illustration the $1,675.13 from line 6 was transferred to line 18. The sum of $1,675.13 was added to the —$400.19 to obtain $1,274.94. (Notice the —$400.19 is a negative figure.)

The student's share of net farm income was found in the same manner as described above. The $708.26 from line 6 was entered on line 18 and added to $186.76 of line 17, and the total of $894.96 was entered on line 19 as the "student's share" of net farm income.

Chapter VII gives a more comprehensive explanation of net income.

Page 25, Section I—Production of Feed Raised This Year

When each crop included in the student's program was harvested, the production was recorded in Section I, and the yield per acre was determined.

Page 25, Section II—Disposal of Feed That Was on Hand and Was Raised This Year

Section II was completed so that each enterprise can be analyzed separately. Crop production should be credited to each particular crop. The feed that was consumed by the livestock from the crops that were on hand as beginning inventory or that were raised during the year should be charged to each particular class of livestock.

The kinds of feeds that were on hand or were raised during the year were listed at the top of the double column in Section II. The beginning inventory of the amount of each kind of feed was transferred from page 4, column 2, to line 1 as corn—102 bushels, oats—0 bushels, lepedeza hay—100 bales, permanent pasture grazing—2 acres, and grass hay—0 bales.

The feed that was raised this year and entered in Section I of page 25 was transferred to line 2 of Section II as corn—222 bushels, oats—126 bushels, lespedeza hay—200 bales, permanent pasture—2 acres (same two as in inventory), and grass hay—100 bales.

The total quantity for each kind of feed that was on hand plus that raised during the year was entered on line 3.

The ending inventory of each kind of feed was taken from page 4, column 5, and entered on line 4. The 106 bushels of ear corn plus the 1,600 pounds (20 bushels) of crushed corn equal 126 bushels.

The amount of each kind of feed sold or exchanged was obtained from page 18 and entered on line 5; for example, an amount of 87 bushels of corn was entered on line 5, column 3.

If the seed used for crops planted during the year were obtained from the supply on line 3 of page 25, then that amount was entered on line 6. The oat crop was the only one for which home-grown seed were used. The 8 bushels were entered on line 6, column 5. Purchased seed are not included in this section.

The totals for each kind of feed on hand, sold, and used for seed were obtained by adding the entries on lines 4-6. These totals were entered on line 7.

When the amount on line 7 was subtracted from the corresponding amount on line 3, the amount of each kind of feed fed to livestock was determined. These amounts were entered on line number 8 as 111 bushels of corn in column 3; 16.2 bushels of oats in column 5; 80 bales of lespedeza hay in column 7; 2 acres of pasture in column 9, except the $20 worth that was rented to the parent; and 0 bales of grass in column 9a.

The corn was valued at $1.20 per bushel, or $133.20. This was entered in column 4. The oats were valued at $0.80 a bushel, or $12.96, which was entered in column 6. The lespedeza hay was valued at $0.60 a bale, or $48, which was entered in column 8. The permanent pasture value of $48 was entered in column 10.

All of the feed on line 8 was fed to the beef cattle; therefore, the values on line 8 were entered on line 9a for the beef cattle. If feed had been fed to two or more kinds of livestock, the quantity and the value of each would have been prorated on lines 9a, 9b, 9c, and 9d according to the quantity and the value for each.

Page 26—Analysis by Enterprises

In addition to the analysis of net income at the end of Section II, page 24, an analysis by enterprises is made on page 26. The form on page 26, designed for analyzing each enterprise, may be used for different ownership arrangements. Instructions at the top of the page tell the procedure for each.

When the student owns the total enterprise and the parent owns no part, then the analysis reflects the total enterprise. If a student has a partnership arrangement, he has several choices: (1) he may summarize the total enterprise including his and his partner's share; or (2) he may include only his share of each item as it is entered; or (3) if he wants both analyses, then he should use two copies of page 26. Choice number 1 is most commonly used in enterprise analysis. The illustration, therefore, is for choice number 1. This is a 100 percent share for corn, oats, pasture, cattle, and hogs. The illustration for broilers includes both the student's 25 percent share and the parent's 75 percent share.

Each enterprise listed on page 2 was entered at the top of columns 8-15 on page 26 in the same manner as for previous pages.

Since this illustration is to be an analysis for the total of each enterprise, the instructions at the top of page 26 specify the use of columns 3, 4, and 5 as a basis for the data to be recorded in columns 7-15.

Page 26, column 7. Entries were first made in column 7 as follows:

Item number 1—Cash income of $7,612.65 was transferred from the totals of lines 7-14, column 5, page 24. The $230 income from capital items was not included.

Item number 2—An amount of $230 was transferred from page 24, line 15, column 5.

Item number 3—The ending inventory has four amounts: $420.40, $726.23, $480, and $2,809. These amounts were transferred from the totals on page 4, column 7; page 5, column 11; page 6, column 10; and page 7, column 8, respectively. They are recorded on page 24, Section I, column 5, also.

Item number 4—Non-cash has five amounts. The first four are $133.20, $12.96, $48, and $48. These were transferred from page 25, line 9a, columns 4, 6, 8, and 10, respectively. The $20 worth of broiler manure used on the corn was credited in item 4 as a non-cash income.

Item number 6—Cash expense of $6,932.84 was transferred from the totals of lines 7-14, column 4, page 24. The $1,310 for capital purchases is not in this total.

Item number 7—Capital purchases of $230 and $1,080 were transferred from the totals on page 6, column 3, and page 7, column 3, respectively.

Item number 8—The beginning inventory has values of $269.50, $196, $380, and $1,915. These values were transferred from the totals on page 4, column 4; page 5, column 7; page 6, column 6; and page 7, column 5, respectively.

Item number 9—Non-cash has values of $133.20, $12.96, $48, and $48. These were taken from page 25, line 9a, and entered in column 7. The $20 for manure is the same figure as was recorded in item number 4. The sum of the charges and the credits for non-cash items for item 4 and item 9 must always be the same.

Item number 5—The total income of $12,540.44 was obtained by adding all of the figures for items 1-4 of column 7.

Item number 11—The net returns of $1,274.94 in column 7 were obtained by subtracting line 10 from line 5 ($12,540.44 minus $11,265.50=$1,274.94). This is also the same figure as is shown on page 24, line 19, columns 4 and 5. This comparison acts as a check for the accuracy of column 7. These two must be the same.

Page 26, columns 8-15. After all the totals were recorded in column number 7, they were prorated among the enterprises of columns 8-15 by transferring individual entries from the designated pages and column numbers specified in columns 3, 4, and 5 of the table as indicated below.

The cash income for item number 1 in each enterprise column was taken from the total for that enterprise in column 5, Section II, of page 24. The total of all the entries recorded in columns 8-13 of item number 1 ($113.10+$129.44+$80.30+$409.70+$98.60+$6,781.51) was $7,612.65. This is the same value that was previously recorded in column 7 and is a check for the accuracy of item number 1.

The amount of $230 for item number 2 for the beef cow was transferred from column 16 of page 19.

The ending inventory on the first line of item number 3 of $420.40 was prorated among the enterprises in keeping with the individual listings on page 4, column 7. The value of $169.80 for corn was determined by adding $137.80 for ear corn to $32 for crushed corn. The value of $161.60 for oats and lespedeza was determined by adding $40 for oats, $84 for lespedeza hay, and $37.60 for seeded oats. The value of $86 for permanent pasture was determined by adding $36 for pasture grass hay and $50 for permanent pasture. The remaining value of $3 was the cottonseed meal which was on hand for the beef cattle. The sum of all the entries was $420.40, which is the same figures as in column 7.

The ending inventory of $726.23 on the second line of item number 3 was prorated among the enterprises in keeping with the individual entries on page 5, column 11. The ending inventory of $480 on the third line of item number 3 was credited to the beef cattle, since this enterprise was the only one entered on page 6, column 10.

The ending inventory of $2,809 on the fourth line of item 3 was prorated in keeping with the individual entries on page 7, column 8. The $74 for beef cattle was transferred directly, and the $2,735 for broilers was determined by adding $1,835 for the broiler house to the $900 for the broiler house equipment. The sum of all the prorated values on each line of item number 3 is the same figure that was recorded previously in column 7 for each line and serves as a check for accuracy of item number 3.

The non-cash income figures on the first four lines of item 4, column 7 were credited to the various enterprises in keeping with the figures on page 25, line 8, columns 4, 6, 8, and 10. The $20 for chicken manure was credited to the broilers.

The total income, item number 5 for each enterprise, was obtained by adding the entries for items 1, 2, 3, and 4 for each enterprise. The sum of all the totals for columns 8-13 in item number 5 was $12,540.44, which is the same figure that was placed in column 7. This check proves the entries for items number 1-5 to be correct.

The cash expenses for item number 6 of each enterprise were taken from entries on page 24, Section II, column 4, lines 7-14. The total of all entries of item 6 for columns 8-13 was $6,932.84, which is the same figure that was recorded in column 7 and proves the entries to be correct ($148.00+$175.10+$145.75+$147.35+$85.94+$6,230.70=$6,932.84).

The capital purchases in item number 7 were prorated among the enterprises in keeping with the individual entries on pages 6 and 7, column 3. The $230 on page 6 went to the beef cattle. The $80 on page 7 went to beef cattle, and the $1,000 on page 7 went to broilers.

The beginning inventory on each line of item number 8 for each enterprise was obtained from the individual entries on pages 4, 5, 6, and 7. The $127.50 for corn was transferred directly from column 4. The $106 for oats and lespedeza was determined by adding the $70 for hay to the $36 for seeded oats. The $30 for permanent pasture was transferred directly. The $6 for beef cattle was the remaining $6 of column 4 for cottonseed meal. The sum of all the entries was $269.50, which is the same figure that was recorded in column 7.

The $160 for beef cattle and the $36 for swine were obtained from page 5, column 7. The sum of these two checked with the $196 of column 7.

The $380 for beef cattle came from page 6, column 6; and the $1,915 for broilers came from page 7, column 5.

The non-cash entries in item number 9 of $133.20, $12.96, $48, and $48 for beef cattle were taken from page 25, line 9a, columns 4, 6, 8, and 10, respectively. The $20 charged to corn was for the broiler manure. All the entries in item number 9 are the same values as those in item number 4 except that they are charged to different enterprises. They are the value of the feed and manure credited to the feed and broiler enterprises and charged to the beef cattle and corn.

The total expenses in item number 10 for each enterprise were determined by adding each column for items 6-9. The sum of all the totals was $11,265.50, which is the same figure as the one that was previously recorded in column 7, and is a check for the accuracy of item 10.

The net returns in item number 11 for each enterprise were determined by subtracting the total expenses of item number 10 from the corresponding total income of item number 5. All of these net income figures were added; and the total was $1,274.94, which is the same figure that appears in column 7 and that is recorded on page 24, line 19. This total is a check for the accuracy of all the calculations on page 26.

Comparison of enterprises from the standpoint of net returns. The broiler enterprise had the highest net return of any in the supervised farming program. The student, however, received only 25 percent of this income. The 25 percent as the student's share would be greater than for any other enterprise. The corn and beef cattle were next with approximately the same net returns, slightly over $120 each. The oats and lespedeza produced a net return of a still lower figure, and the permanent pasture showed only $38.55 largely because it was charged to the beef cattle at a low cost figure.

When comparing the net returns from each enterprise, the student should notice that there are certain factors that have not been equated. The units of scope for each are not of the same magnitude, nor is the self labor the same for each. These facts should be taken into consideration when the various enterprises are being evaluated.

Page 27—Special Conditions Affecting Income From Different Enterprises

The name of each enterprise was entered in the first column, page 27. The experience with each enterprise was reviewed to determine: (1) Was the income high, low, or medium? (See paragraph above.) (2) What factors as revealed by the record, such as high or low fertilizer application or high or poor feed efficiency, were responsible for the level of the income? (3) What factors not shown by the records, such as high rainfall, drought, and fertile soil, contributed to the level of income?

The remarks on page 27 are typical of the types of special conditions that may be important.

C. EXPLANATIONS OF THE TOTAL OF STUDENT'S NET INCOME AND FINANCIAL STATEMENT

To this point in the explanations, the discussion has been restricted to the student's supervised farming program. Beginning with the discussion on page 28 in the record book, the student will find all income, business costs, and financial considerations explained.

Page 28, Section I—Total Agricultural and Non-Agricultural Earnings

Upper table—agricultural net income other than from student's enterprises. The student operated his parent's equipment for custom hire for his neighbors. His part of the income for his labor was $168, and it was entered in column 3. Ten dollars of expenses (car expenses, lunch, etc.) in column 4 was deducted. This left $158 net income for column 5.

The agreement with the parent provided that the student help the parent with the regular farm work; and in exchange the parent would provide equipment, land, buildings, and family labor. The parent, however, would receive, in addition to the student's personal labor, certain other items in exchange for the equipment use, land, etc.

The total exchange expense of $377.90 in column 6 of pages 8-17 inclusive was entered on page 28, upper table, column 3, as income of the student. This is done because the student received this value from the parent. The total exchange income of $314 in column 6 of pages 18-23 inclusive, was entered on page 28, upper table, column 4, as expenses of the student. This is done because the student provided value from his enterprises to the parent. The difference between the two values entered on page 28, columns 3 and 4, represents net income or net loss to the student. In this case it was $63.90 ($377.90 minus $314.00), which was recorded in column 5. If the amount in column 4 had exceeded the amount in column 3, then the results would have been a negative amount. The student should be certain that the exchange expense total in column 6 on the last line of the expense page is recorded in column 3 of page 28, and that the exchange income total in column 6 on the last line of the income page is recorded in column 4.

Each column of the table was added and the totals were recorded on the last line. A check for accuracy was made by subtracting $324.00 from $545.90 to get $221.90, the same figure as the total of column 5.

Lower table—non-agricultural net income. The student, who was a good mechanic and did the mechanical work on his parent's farm in exchange for equipment use, also did odd jobs of mechanical work for Mr. Smith's garage. From June 1 to September 1 he was paid $113.60 for his part-time work; and he paid $22.10 for car expenses, meals, and other expenses in connection with the work. These figures were entered in columns 3 and 4, respectively. The net income of $91.50 ($113.60 minus $22.10) was entered in column 5.

The student owned $500 in 4½ percent interest-bearing bank certificates. The interest for the year was $22.50, which was entered in columns 3 and 5. Columns 3, 4, and 5 were totaled, and the totals were entered on the last line of the table. A check for accuracy was made ($136.10 minus $22.10=$114.00, which is the same figure as the total of column 5).

Page 28, Section II—Total of Student's Net Income

The $894.96, student's share of net income from page 24, line 19; the $221.90, agricultural net income from the upper table, column 5 of page 28; and the $114, non-agricultural net income from the lower table, column 5, were added to get the $1,230.86 total of the student's net income from all sources.

Page 29—Student's Financial Statement

The entries were made in the beginning columns according to instructions in column 1. The student's net worth in item C showed an increase in the ending inventory over the beginning inventory of $201.56, which was entered in D.

Pages 30-32—Important Dates and Notes

This is a very important section of the record. The notes and dates written on page 30 were recorded so that plans could be made accordingly. These are only samples of many more like them. Any other special records, such as self labor, could be entered on these pages if needed.

Chapter VI

VARIATIONS FROM THE ILLUSTRATION IN CHAPTER IV THAT MAY BE MADE FOR DIFFERENT STUDENTS

A. EXPLANATIONS OF VARIATIONS

A Student Who Operates Completely on a 100 Percent Basis

A student who operates completely on a 100 percent basis for all enterprises may omit the following columns of certain pages:

Page 4, columns 8, 9, and 10.
Page 5, columns 12, 13, and 14.
Page 6, columns 11, 12, 13, and 14.
Page 7, columns 9, 10, 11, and 12.
Page 24, Section I, columns 6 and 7.
Page 24, Section II, columns 6, 7, and 8.
Page 26, column 6.

It is necessary to use the columns for the "total" of the above pages because it is these entries that give a complete picture of each enterprise of the practice program. The "total" is also the "student's share" for a completely 100 percent share student. The figures for the "total" and the "student's share" would be identical and would, therefore, not need to be repeated in the "student's share" columns.

When the student has less than 100 percent share for any item in his supervised farming program, as did the student in the illustration in Chapter IV, then both the "total" and the "student's share" would be calculated and entered on pages 4, 5, 6, 7, and 24.

A Student With Only One Enterprise in His Supervised Program Who Uses No Feed From His Supply for His Livestock

In this case columns 8-15 of pages 8-23 could be omitted because column 7 would represent both the total and the enterprise values, since they would be the same.

Also, in this case pages 25 and 26 could be omitted because they are used for (1) prorating expenses and income among two or more enterprises, (2) giving credit to feed-producing enterprises for the feed fed to livestock, and (3) placing charges for feed that is used for student's supply by his livestock. None of these situations would exist for a one-enterprise program, and pages 25 and 26 would not be needed.

A Student With No Capital Assets

Pages 6 and 7 and column 16 of pages 8-23 would be omitted entirely for a student with no capital assets.

A Senior Who Graduates or Any Other Student Who Discontinues Vocational Agriculture

In this case, one of two choices could be made: (1) close out the record at the end of the school year by using the inventory pages, or (2) continue the record until the end of the calendar year and close it out on December 31. Option number (2) would be the more desirable for the student who is to remain on the farm and stay in close contact with the teacher. Young men who are qualifying for an American Farmer degree must continue with the supervised farming records.

A First-Year Student of Vocational Agriculture

In certain instances a student, especially one enrolled in Agriculture I, may have a single enterprise, 100 percent ownership, supervised farming program for which he owns no capital items of investment and has no beginning inventories. In this case, only a part of the record book is used. This usually consists of cash or equivalent expense and income records, an ending inventory of crops or livestock that are on hand at the end of the year, and a summary in which the net cash income and the net farm income are shown. This kind of record would be simpler and easier to keep than one which involves all phases of a complete set of record forms.

A student who enrolls in Agriculture I in September may have very few entries in his record book before December 31. In this case, he may not need a record book for the short period and an additional one for the next year. He may, therefore, include these entries with those of the next year in one book. In case a student files income taxes on a calendar-year basis, he would need to separate the income and the deduction for each of the calendar years, or else he would need to keep two record books—one for each year.

A Farmer Including One Enrolled in a Young Farmer or Adult Class

A farmer can use this record book as illustrated in Chapter IV and explained in Chapter V. This book is ideally suited for a farmer who desires to make various kinds of analyses.

The inventory, expense, income, and summary pages will provide a good picture of the total farming operations. The pages for analyses are ideally designed for making enterprise analyses for purposes of evaluating past performances for each enterprise.

A farmer might elect some method other than enterprise classification on pages 8-23 for prorating the expenses and income. For example, columns 8-16 might be classified similarly to those used in income tax reporting.

B. ILLUSTRATION OF ENTRIES AND CALCULATIONS FOR AN AGRICULTURE I STUDENT WHO CONTINUES IN AGRICULTURE II

The following hypothetical illustration is developed to show how the *Vocational Agriculture Record Book* can be adapted for a simple record of a beef steer project of an Agriculture I student and then expanded to a program consisting of two steers and one acre of winter grazing as an Agriculture II student. It should be noticed that only certain forms in the record book have been selected for use. If the student should not enter Agriculture II, then the record would end with the Agriculture I beef steer and could be simplified even further.

The explanations in Chapter V are given for a complete and advanced supervised farming program of a student as represented by the illustration in Chapter IV. Certain ones of the explanations, however, may be used for understanding the illustration in Chapter VI that follows.

As was done in Chapter IV, the guide page numbers were omitted on the forms used from the record book for this illustration. They were resumed on the pages that follow the illustration.

PRECEDING PAGE MISSING

INTRODUCTION

The *Vocational Agriculture Record Book* is designed to include appropriate forms for recording valuable financial information about the enterprises of the supervised program in production agriculture. The record should include all expense and income items for each enterprise whether paid for or received by the student or some other person. All purchases and sales should be included even when the enterprise is produced on a share basis, since the student's share is calculated on the summary page. The record should be kept on a calendar-year basis and should include beginning and ending inventories made on January 1 and December 31, respectively.

Information in this record book will be needed for business analysis and filing reports, such as income tax, social security, and reports of various achievements. This book is designed on an enterprise basis and conforms as nearly as possible to the type of business accounting that is used by managers in agricultural production. Correct usage will give a sound basis for understanding the record systems in production agriculture that will be encountered after the student leaves high school.

In order for records to be of value, they should be complete and accurate. Entries must be made as soon as possible after transactions take place to insure that accuracy will be achieved. Throughout the book are printed brief instructions to be followed in making entries. The student should study the instructions before he uses the book. Detailed directions are available in *A Guide* supplementing this record book. The teacher will teach record keeping and will assist the student in keeping and analyzing the record.

ENTERPRISES FOR WHICH THIS RECORD IS KEPT:

For a student in Ag. I and the first half of Ag. II (9-1-65 to 12-31-66)

Enterprises	Scope and unit	Column No. on expense and income pages
Steers	3 head *	8
Winter grazing	1 acre *	9
		10
		11
* 1 steer for Ag. I		12
* 2 steers and 1 acre grazing for Ag. II		13
		14
		15

AGREEMENT FOR STUDENTS IN PRODUCTION AGRICULTURE

This agreement is entered into this 1st day of September, 1966, for a period of 1½ years, by and between William Jones (Student) and Thomas E. Jones (Parent or Other Party) and covers the student's enterprises in production agriculture.

This agreement contains statements concerning responsibility for providing equipment, land, buildings, capital, and management; and the percent that is the student's share for each enterprise.

Student agrees to provide the following: *(Specify details by enterprises.)*

Self labor and management for the steer as an Ag. I enterprise. All expenses for the steer except building, fences, equipment, and family labor.

Self labor and management for the two steers and one acre of winter grazing as Ag. II enterprises; and all expenses except buildings, fences, equipment, family labor, and land.

Student is to receive: *(Specify details by enterprises.)*

100 percent of the income from each enterprise. Also all equipment, buildings, fences, family labor, and land from parent in exchange for self labor on the parent's farm.

Parent or "other party" agrees to provide: *(Specify details by enterprises.)*

Buildings, equipment, fences, family labor, and land at $20 per acre for the land and fair value for the other items. This will be in exchange for student's self labor on parent's farm.

Collateral for bank note for borrowed money.

Parent or "other party" is to receive: *(Specify details by enterprises.)*

Student's labor on the farm in exchange for the items stated above that the parent is to furnish.

Responsibility of vocational agriculture teacher: Teach the student and supervise his program.

Signatures:
William Jones (Student)
Thomas E. Jones (Parent or "other party")
R. J. Smith (Vocational agriculture teacher)

INVENTORY OF CROPS, FEED, SEED, AND SUPPLIES

Inventory all feed, seed, and supplies on hand by multiplying the quantity times the price at the farm. Also inventory unharvested crops on the basis of actual value at the time the inventory is made. For fall-seeded crops the value should be at least the cost of establishment. If the student has a record book for last year, the beginning inventory in this book must be the same as the ending inventory in last year's book.

Multiply values in columns 4 and 7 by percentages in column 8 and enter the figures in columns 9 and 10, respectively.

Item	Total for each item						Student's share		
	Beginning of year			End of year					
	Quantity & unit	Price per unit	Value	Quantity & unit	Price per unit	Value	Per cent	Beginning value	Ending value
1	2	3	4	5	6	7	8	9	10
Ear corn	-0-	$	$	36 bu.	$1.25	$ 45.00	100	$	$
Cottonseed meal	-0-			600 lbs.	.03	18.00	100		
Winter grazing	-0-			1 acre	net cost	48.64*	100		
*($67.25 expenses, page 9, minus $18.61 income, page 19.)									
TOTALS (Carry forward to page 24)			$			$ 111.64		$	$

INVENTORY OF LIVESTOCK AND POULTRY HELD FOR SALE AND HOME USE

Inventory all livestock and poultry held for sale and for home use by multiplying the quantity times the price at the farm. Livestock held for sale include feeder stock. Inventory on page 6 livestock kept primarily for breeding or milk production. Omit columns 7 and 13 for those animals acquired during the year, and omit columns 11 and 14 for those animals disposed of during the year. Leave column 3 blank for animals raised. If the student has a record book for last year, the beginning inventory in this book must be the same as the ending inventory in last year's book.

Multiply values in columns 7 and 11 by percentages in column 12 and enter the figures in columns 13 and 14, respectively.

Kind	Date acquired	Cost if bought	Total for each item								Student's share		
			Beginning of year				End of year						
			Quantity		Price per unit	Value	Quantity		Price per unit	Value	Per cent	Beginning value	Ending value
			No.	Pounds			No.	Pounds					
1	2	3	4	5	6	7	8	9	10	11	12	13	14
		$			$	$			$	$		$	$
Steers	11-1-66	150.00					2	700	Net cost to date	175.50*	100		
*($150.00 Cost of steers plus feed used to date, valued at cost less amount on hand).													
TOTALS (Carry forward to page 24)						$				$175.50		$	$

PRECEDING PAGE MISSING

OPERATING AND CAPITAL

These instructions apply to pages 8 through 17. Enter all expenses including (1) cash operating costs, (2) cash for machinery, breeding stock, and other depreciable property, and (3) the value of goods and services received (without a cash cost) in exchange for other goods and services.

Write the enterprises in the headings of columns 8-15 in the same order as recorded on page 2.

Enter in column 5 the amount for each item for which actual cash was paid, including grant-in-aid purchase orders. Enter in column 6 the value of the student's products, personal labor, etc., given in exchange for other products. Also enter in column 6 the appropriate charge for the use of equipment furnished by others (unless

Date	Expense items	Quantity and unit	Price per unit	Expenses		Total cash & exchange		
				Cash	Exchange		Steers	
1	2	3	4	5	6	7	8	
1965	- As an Ag. I student:		$	$	$	$	$	
Nov. 10	Beef steer	400 lbs.	.19	76.00		76.00	76.00	
10	Hay	1 ton	35.00	35.00		35.00	35.00	
10	Ear corn	25 bu.	1.20	30.00		30.00	30.00	
10	Cottonseed meal	400 lbs.	.03½	14.00		14.00	14.00	
10	Mineral mixture	100 lbs.	.04	4.00		4.00	4.00	
10	Hammermill use	25 bu.	4.00/t.		4.00	4.00	4.00	
10	Family labor	2 hrs.	.75		1.50	1.50	1.50	
10	Truck use	1 hr.	1.00		1.00	1.00	1.00	
1966								
Jan. 15	Medicine			3.00		3.00	3.00	
May 11	Pasture rent	½ ac.	20.00		10.00	10.00	10.00	
12	Truck use to show	1 hr.	1.00		1.00	1.00	1.00	
12	Sales commission	1 head	3%	7.34		7.34	7.34	
	As an Ag. II student:							
Oct. 1	Land rent	1 acre	20.00		20.00	20.00		
3	Rye seed	2 bu.	3.25	6.50		6.50		
3	Ryegrass seed	50 lbs.	.08	4.00		4.00		
3	Crimson clover seed	20 lbs.	.24	4.80		4.80		
3	Inoculation			0.38		0.38		
3	Limestone	1 ton	7.50	7.50		7.50		
3	6-12-12 Fertilizer	600 lbs.	42.00/t.	12.60		12.60		
5	Tractor and equip. use	3 hrs.	3.00		9.00	9.00		
3	Family labor	3 hrs.	.75		2.25	2.25		
Nov. 4	Steers	750 lbs.-2h.	.20	150.00		150.00	150.00	
4	Ear corn	50 bu.	1.25	62.50		62.50	62.50	
4	Cottonseed meal	800 lbs.	.03	24.00		24.00	24.00	
4	Hammermill use	1000 lbs.	4.00/t.		2.00	2.00	2.00	
TOTALS (Carry forward to next page)				$ 441.62	$ 50.75	$ 492.37	$ 425.34	

EXPENSES (CASH AND EXCHANGE)

student is operating on a share basis), family labor, gifts, etc., received in exchange for other considerations. Distribute the amounts in column 7, except for capital items purchased during the year, among the appropriate enterprises of columns 8-15. Certain expense items, such as repairs, should be prorated as accurately as possible among enterprises benefiting from the expense. Omit columns 8-15 for all capital items and use column 16 instead. Also inventory these capital items on pages 6 and 7.

Enter on these pages all cash expenses and non-cash exchanges for each enterprise although production is on a share basis. The student's share is calculated on page 24.

Carry forward totals to each succeeding page and enter the totals of the last expense page on page 24.

Distribution of operating expenses by enterprises (cash & exchange)							Capital expenses
Winter grazing 9	10	11	12	13	14	15	16
$	$	$	$	$	$	$	$
20.00							
6.50							
4.00							
4.80							
0.38							
7.50							
12.60							
9.00							
2.25							
$ 67.03	$	$	$	$	$	$	$

PRECEDING PAGE MISSING

INCOME FROM CAPITAL AND NON-

These instructions for recording income apply to pages 18-23.

Write the enterprises for which this record is kept in the headings of columns 8-15 in the same order as recorded on page 2. Enter in column 2 the products sold or exchanged for other items and considerations including family consumption. Do not enter products used for the student's other enterprises. Enter in column 5 the amount from cash sales. Consider certain income, such as agricultural program payments or purchase orders, as cash income. Enter in column 6 the value of the student's products given to others and those used by family members.

Date	Income items	Quantity & unit	Price per unit	Income		Total cash & exchange	Steers
				Cash	Exchange		
1	2	3	4	5	6	7	8
1966	As an Ag. I student:		$	$	$	$	$
May 12	Prize money	3rd place		10.00		10,00	10,00
12	Steer	890 lbs.	.27½	244.75		244,75	244.75
	As an Ag. II student:						
Oct 2	Purchase order for:						
	Rye	1½ bu.	2.00	3.00		3,00	
	Ryegrass	20 lbs.	,05	1,00		1,00	
	Crimson clover	20 lbs.	,14	2,80		2,80	
	Limestone	1 ton	5,33	5,33		5,33	
	6-12-12 Fertilizer	600 lbs or 180 units	,036	6,48		6,48	
TOTALS (Carry forward to next page)				$ 273,36	$	$ 273,36	$ 254,75

CAPITAL ITEMS (CASH & EXCHANGE)

Distribute the amounts in column 7 among the appropriate enterprises of columns 8-15. Lump-sum income, such as agricultural program payments, should be prorated among the appropriate enterprises. Omit from columns 8-15 sales of capital items, such as used machinery and breeding stock, but record them in column 16 instead. Also omit these capital items from page 6, columns 10 and 14, and page 7, columns 8 and 12.

Enter on these pages all income from an enterprise although it was produced on a share basis. The student's share is calculated on page 24.

Carry forward totals of each column to each succeeding page and enter totals of last income page on page 24.

Distribution of non-capital income (cash & exchange)							Capital income
Winter grazing 9	10	11	12	13	14	15	16
$	$	$	$	$	$	$	$
3.00							
1.00							
2.80							
5.33							
6.48							
$ 18.61	$	$	$	$	$	$	$

PRECEDING PAGE MISSING

SUMMARY OF YEAR'S BUSINESS

Section I. Summary of the Year's Inventories

Transfer to this section the totals of the inventory accounts from pages 4-7. If the student owns a fixed share of one class of inventory, enter the total investments in colums 4 and 5, and the student's share in columns 6 and 7. When the student owns 100 percent interest, his share will be identical to the "total."

Line No.	Kind of inventory	From page No.	Total investments		Student's Share	
			Beginning	Ending	Beginning	Ending
1	2	3	4	5	6	7
1	Crops, feed, seed, and supplies	4	$ -0-	$ 111.64	$	$
2	Livestock and poultry held for sale and home use	5	-0-	175.50		
3	Livestock held for breeding and dairy purposes	6				
4	Permanent improvements, machinery, and equipment	7				
5	Totals (lines 1-4)		$ -0-	$ 287.14	$	$
6	Gain or loss in investments (+ or —)		$ + 287.14		$ Same.	

Section II. Summary of the Year's Expenses and Income (Cash & Exchange)

Transfer the totals from pages 8-17 and 18-23, respectively, to columns 4 and 5. When the student's share of any one enterprise is less than 100 percent, determine the student's share for each and enter in columns 7 and 8.

Line No.	Enterprises from pp. 8-23	From col. No.	Total		Student's Share		
			Expenses	Income	%	Expenses	Income
1	2	3	4	5	6	7	8
7	Steer	8	$ 425.34	$ 254.75	100	$	$
8		9	67.03	18.61	100		
9		10					
10		11					
11		12					
12		13					
13		14					
14		15					
15	Capital items	16					
16	Totals (lines 7-15)		$ 492.37	$ 273.36		$	$
17	Net cash income (gain or loss; + or —)		$ −219.01			$ Same	
18	Change in inventory (gain or loss; + or —)		$ + 287.14			$ Same	
19	Net farm income (gain or loss; + or —)		$ + 68.13			$ Same	

Part Three

EVALUATING SUCCESS IN A FARMING PROGRAM

Chapter VII

PROCEDURES FOR CALCULATING SELECTED KINDS OF FARM RETURNS FROM RECORDS

Many kinds of analyses can be made with farm records. Some can be made with speed and with a minimum of records. Others require more information. Conclusions that can be drawn vary with details that are included. The greater the amount of details that are included, the more specific can be the conclusions.

Record books provide some space for recording information and usually provide some arrangement for measuring success, but they do not provide forms and instructions for calculating all measures of success. Students and farmers should not expect record books to provide the suggestions and forms for making all kinds of analyses that are needed. If record books did provide them, then the user would be faced with the difficult decisions of selecting those measures that would be useful and of rejecting those that would have limited value.

Many measures of success can be analyzed with information that can be recorded in the *Vocational Agriculture Record Book for Production Agriculture.* The larger the scope of the farming program, the more important it is to evaluate the records kept. The illustration in Chapter IV contains only two kinds of analyses: an analysis of net farm income on page 24 and an analysis by enterprises on page 26 of the illustration. These are explained in Chapter V.

Chapter VII identifies selected measures of success, explains the procedure for calculating the measures, and explains the procedure with examples from the illustration in Chapter IV. On a comparative basis these examples are similar to those that a farmer can make for his business.

A. NET CASH (Not Net Cash Income)

Net cash is the remainder after subtracting the gross cash expenses from gross cash income. The net cash can be determined from the information in the record book on pages 8 through 23. It may be calculated at any time during the year or can be summarized at the close of the year.

The following example is based on entries in the illustration for the advanced supervised farming program in Chapter IV. The procedure, description, sources, and amounts are as follows:

Item	Pages	Column	Amount
Total cash income	18-23	5	$7,528.65
Total cash expenses	8-17	5	7,864.94
Net cash (subtract)			$—336.29

In the preceding example the net cash is a negative amount. The net cash indicates only the change in cash in the farming program. It indicates whether cash income is more or less than cash expenses. It does not indicate success.

If the student owns 100 percent of his enterprises, the net cash represents his cash balance. If he is in partnership for one or more enterprises, then the parent's or partner's share must be deducted to determine the student's share.

In the example below, the student's share of a broiler enterprise was 25 percent. Seventy-five percent of the cash represented the parent's share. In this case all the expenses and all the income were cash, and none were exchange; therefore, the student's share and the parent's share can be determined from the totals in the column for broilers. If part of either were exchange items, then the exchange values would have been excluded. The adjustment for the partner's share can be solved in this way:

Item	Total Cash	Student's Share (25%)	Parent's Share (75%)
Total cash income from broilers (pages 18-23, column 13)	$6,781.51	$1,695.38	$5,086.13
Total cash expense (pages 8-17, column 13)	$6,230.70	$1,557.68	$4,673.02
Net cash	$ 550.81	$ 137.70	$ 413.11

The student's total net cash from all enterprises can be determined by removing the parent's share from the net cash previously calculated.

Item	Amount
Total net cash	—$336.29
Parent's share of the net cash	413.11
Student's net cash (subtract algebraically)	—$749.40

In the foregoing example the first cash balance showed a decline, and the parent's share for broilers was a gain; therefore, the student's share is a larger decrease (his loss of $336.29 plus the parent's share of $413.11). This decrease in cash was due to the inventory that the student accumulated.

What conclusions can be drawn? The details of the net cash are very important. They are needed for income tax reports, for measuring success of the total farm, or for evaluating separate enterprises. The net cash, with adjustments for personal living costs and other income, can be compared with the bank balance and cash on hand to determine if all money has been accounted for.

The net cash balance does not indicate success or failure. Exchange values and inventory changes must be recognized before conclusions can be drawn about success or failure.

B. NET CASH INCOME

Net cash income, as used in this record system, includes both cash and exchange values. Net cash income is the gross cash and exchange income minus the gross cash and exchange expense. Exchange income and exchange expenses are particularly important with most vocational agricultural students because of the partnership arrangements with the parent or other party. The exchange values are a real part in understanding farming. These are costs and income and must be recognized in studying success.

The amount of the net cash income was entered on page 24, Section II, line 17, of the record book. The calculations for determining net cash income are as follows:

Item	Total Amount	Student's Share
Total cash and exchange income (page 24, line 16, columns 5 & 8)	$ 7,842.65	$ 2,756.52
Total cash and exchange expenses (page 24, line 16, columns 4 & 7)	8,242.84	2,569.82
Net cash income (subtract)	$—400.19 (Loss)	$+186.70 (Gain)

Before drawing conclusions about the business, a student needs to examine the inventory to determine the extent and the direction of the changes. Page 24, Section I, line 6 shows a considerable gain in inventory which partially offsets the low cash income.

C. NET FARM INCOME

Net farm income is the net cash income plus increases in inventory or minus decreases in inventory. Net farm income is a more accurate measure of the success of a business than net cash income because it is based on net cash income and changes in inventory.

The net amount of farm income was calculated on page 24, lines 17, 18, and 19. The details are as follows:

Item	Total Amount	Student's Share
Net cash income	$ —400.19 (loss)	$186.70 (gain)
Change in inventory	+1,675.13 (increase)	708.26 (increase)
Net farm income	$ 1,274.94 (increase)	$894.96 (increase)

After a student calculates the net farm income, he has determined his returns to three factors of production: his self labor, his management, and his investment.

D. LABOR INCOME

Labor income is the net farm income minus a charge for the use of capital.

If a student wants to determine the returns for his physical labor and his management, then he must make a charge for the capital he has invested in his farming program.

The charge for the use of personally owned capital can be determined by multiplying the investment by an interest rate. There is no fixed interest rate. The one that a certain student uses may differ from the one that another student uses. A convenient rate to use is the same one that the student is paying on his borrowed capital. If he owns all his capital, he can use a rate commonly charged in his community.

The interest rate used in the example that follows is 6 percent. That is the rate used in the illustration in the guide. The details are on page 10 of the record book and are dated May 12. The 6 percent rate applies to money borrowed during November of the preceding year with arrangements to pay the interest when the note matured.

There are a number of ways that the interest rate can be charged. There is one that can be worked easily from the student's financial statement on page 29 in the record book. To begin with, the student can identify the assets and the liabilities that are associated with the farming program, and then he can use these amounts and disregard the others. The accounts receivable in this illustration were not a part of the supervised farming program.

In the particular illustration used, the assets in the farming program include those on page 29, lines 1, 3, and 4: total inventory values, cash on hand, and accounts in the bank. The liabilities associated with the farming program include both the unpaid bills and the notes.

A procedure for calculating the interest charge on personal investments in the farming program from the financial statement on page 29 of the record book is as follows:

Item	Beginning Values	Ending Values
Total inventory value	$ 845.50	$1,553.76
Accounts receivable	–0–	–0–
Cash on hand	10.80	4.38
Accounts at the bank	641.10	500.00
Total assets in the farming program (add)	$1,497.40	$2,058.14
Liabilities in the farming program	501.00	748.80
Net worth in the farming program (subtract)	$ 996.40	$1,309.34
Total beginning and ending net worth ($996.40+$1309.34)	$2,305.74	
Average combined net worth ($2,305.74÷2)	1,152.87	
Interest rate to be charged	6%	
Interest charge ($1,152.87×.06)	$ 69.17	

After a charge for personally owned capital has been determined, the labor income can be calculated by deducting the charge for capital from the student's net farm income. For example:

Student's net farm income (page 28, Section II, line 1)	$894.96
Charge for student's personal capital	69.17
Labor income (subtract)	$825.79

Two simplifications can be made in the foregoing procedure if the particular farming program justifies the short cut. In the first place, if there is relatively little change in the net worth during the year, the averaging of the inventories can be omitted; and the interest rate can be multiplied by either the beginning or the ending inventory. In the second place, if the student does not have liabilities, the interest rate can be charged against the assets used in the farming program.

E. RETURNS TO MANAGEMENT

Returns to management are estimated returns for the manager's ability to make decisions. They are the returns after charges have been made for all factors used in the farming programs including charges for all exchange items, self labor, and a charge for capital.

The calculation is simple after labor income has been determined. If the farming program is small in scope, the manager can estimate the hours of self labor. Then he can place a value on this labor at an existing wage rate per hour. If the farming program requires the full time of the manager, he can place a value on this labor that corresponds with an existing wage for full-time farm labor.

If the self labor in the following example is estimated at 300 hours and if the wage rate for farm labor is estimated at $1.25 per hour, then the value of the labor is $375 (300×$1.25). This charge subtracted from labor income will give the estimated returns to management. For example:

Student's labor income (preceding example)	$825.79
Estimated value of self labor (300 hrs.×$1.25)	375.00
Returns to management (subtract)	$450.79

The returns to management in this example exceed the value of the student's self labor. This level of return is in keeping with the relatively high level of performance within enterprises.

F. RETURNS PER HOUR OF LABOR

A student can calculate the returns per hour of labor on each enterprise provided he has a record of the labor used. A detailed labor record involves the regular attention to recording details. Rather than maintaining a daily accounting of labor used, the student can delay the assembling of the labor data until the time of the analysis. Then he can classify the kinds of jobs and allocate the time per job or per day to the job. For example, labor records for a crop can be assembled by listing each job in the growing and harvesting process and by allocating time per acre by jobs. Labor records for a livestock enterprise can be assembled from normal chore time and time on special jobs.

If a particular student desires to prepare self-labor records, he may record them on pages 30-32 of the *Vocational Agriculture Record Book*. The information recorded may be either on a detailed basis or on a job basis.

A student can calculate returns per hour of labor by dividing labor income by hours. Labor income was calculated in an earlier section identified as labor income. Hours of labor were estimated at 300 in the previous section of this chapter. From these data, returns per hour of labor are calculated as follows: $825.79 student's labor income÷300 hrs. estimated self labor=$2.75 per hour.

G. RETURNS TO CAPITAL AND MANAGEMENT

The returns to capital and management are the returns after assessing charges for all factors in production except the management and the capital. This process reflects the manager's ability to manage capital.

As explained previously, the farm income is the returns for self labor, capital, and management. If a charge is made for the physical self labor and this is deducted from net farm income, the remainder is the returns to capital and management.

The discussion on returns to management explained two procedures for placing a value on physical labor. The preceding example placed a value of $375 on the self labor for the student. Continuing with the $375 for self labor, the procedure is as follows:

Student's net farm income (page 24, line 19, columns 7 and 8)	$894.96
Estimated value of self labor (300 hrs. @ $1.25)	375.00
Returns to capital and management (subtract)	$519.96

Returns to capital are usually evaluated in percentages relative to the assets and expressed as a rate earned on the investment. The procedure for determining the assets in the farming program from investment data on page 29 was explained under labor income. In the example below, the calculation is as follows:

Beginning assets	$1,497.40
Ending assets	2,058.14
Total	$3,555.54
Average investment (total divided by 2)	$1,777.77

The rate of returns is determined by dividing the returns to capital by the average investment. In the example the rate is 29 percent ($519.96÷$1,777.77).

The rate in this example is high, but the magnitude is influenced by the broiler enterprise. Broilers have a rapid turnover, and in the illustration the inventory of broilers is low because the batch on inventory is less than two weeks old.

H. COSTS AND RETURNS FROM BROILERS

An analysis can and should be made for each enterprise. Only one of these will be used in the following example, and that is for the first batch of broilers. For convenience the cash and exchange expenses and income entries on pages 10 and 18 of the record book are repeated.

Broiler sales—22,901 lbs.		$3,320.65
Chick cost—8,000 head	$ 360.00	
Shavings—2 loads	20.00	
Medicine	12.00	
Electricity	34.29	
Feed—49,502 lbs.	$2,376.12	
Cash costs (add)		2,802.41
Net cash gain (subtract)		$ 518.24

Results from the broilers can be evaluated with the use of many measures. Some of these measures and the procedure for figuring them are discussed.

Feed efficiency—commonly called feed conversion. The feed efficiency is the ratio between the pounds of feed fed and the pounds of birds sold. It is determined by dividing the pounds of feed fed by the pounds of birds sold, as 49,502 lbs. feed÷22,901 lbs. birds=2.16.

Returns per dollar feed cost. The returns per dollar of feed cost are an important indication of success in feeding. This measure is valuable with all classes of livestock because feed is the largest item of cost. The returns are determined by dividing the value of livestock produced by the value of the feed. In this example of broilers the returns per dollar of feed cost equal ($3,320.65 total returns÷$2,376.12 feed charge) $1.40.

The broiler contract used by the student in the illustration provided a guarantee to the grower of 2.5 cents per pound of broiler sold above the cost of chicks, medicine, and feed. Consequently, the feed is billed, not at retail price, but as a residual after deducting the chick and medicine costs from sales. If feed had been charged at market price and if market price of feed had been $5.50 a hundred, then feed cost would have been $2,722.61 and the returns per dollar feed cost would have been ($3,320.65 return÷$2,722.61) $1.22.

Returns per dollar cash cost. Returns per dollar of cash costs provide a comparison between cash receipts and cash expenses. The value of the quotient above one dollar represents the returns for non-cash costs such as buildings, equipment, farm-raised feed, and self labor. The returns per dollar of cash cost are determined by dividing the value produced by all cash costs. In this example of broilers, the answer is ($3,320.65 value produced÷$2,802.41 cash costs) $1.18.

Returns per pound of broilers sold. Returns from broilers sold divided by pounds sold give the returns per pound of broilers. For example, $3,320.65 returns÷22,901 pounds sold give 14.5 cents per pound.

Feed cost per pound of broilers sold. Feed cost per pound of broiler sold is feed cost divided by pounds of broilers sold. This process is illustrated as follows: $2,376.12 feed cost÷22,901 lbs. broilers sold=10.4 cents per pound.

Cash cost per pound of broilers sold. Cash cost per pound of broilers sold is all cash costs divided by pounds of broilers sold. This process is calculated as follows: $2,802.41 cash cost÷22,901 pounds broilers sold=12.2 cents per pound.

After cash cost per pound of broilers sold is deducted from the returns per pound of broilers sold, the remainder is the returns to the producer for his investment, work, and management. In this example the returns per pound are (14.5 cents returns minus 12.2 cents cash costs) 2.3 cents.

Other analyses. Many more analyses can be made for each batch of broilers. Included among these are comparisons per bird similar to those illustrated on cost-per-pound basis, death loss, and days to produce. The student can select the measures that provide answers to the appropriate questions to be evaluated in broiler production.

I. OTHER MEASURES OF SUCCESS

Measures of success which have been identified and discussed are suggestive of the kinds of analyses that can be made. The list is only a start. There are many more that can be made. A general suggestion that can be offered is to make evaluations for the total farming program and then make separate analyses for each enterprise.

Analyses should not be made because they can be worked. If measures of success are used, it is essential that the user understand what each measure is intended to express. It is even more important that the user have an understanding of the significance of the answer relative to the performances among many producers. Then, for the measure of success to be really meaningful, the user must have sufficient agricultural knowledge to enable him to plan for improvements in keeping with the performance.

Chapter VIII

SUMMARY

This *Guide* was written for the student and the teacher of vocational agriculture. It was written about record keeping and record analysis with farming programs. It was written to conform with one record book—namely, the *Vocational Agriculture Record Book.* It was written to help an individual progress from simple records to as complex a system of records as is appropriate to his farming program.

Since this publication was written as a guide, it includes instructions in considerable detail. Besides containing a copy of the *Record Book* with illustrations, the guide also explains the step-by-step procedure for numerous entries and calculations.

The guide was written with the expectation that each user would adapt the particulars to his personal needs. As the needs for an individual increase, he can increase his use of the guide.

Record keeping and analysis are considered as two of the most important jobs in operating a farming business. They are also considered to have real importance in the learning of arithmetic as a high school subject. For these and other reasons they are considered as important parts of the instructional program in vocational agriculture.

The three major kinds of records are inventory (beginning and ending), cash (expense and income), and exchange (expense and income). They may be kept by using any of three systems: enterprise, whole-farm, or a combination whole-farm and enterprise system. The third system is most appropriate for students of vocational agriculture.

There are certain terms that are significant in understanding farm accounting, record keeping, and analysis of records. Chapter III is a convenient reference for terms used in the record book and some additional terms used in record analysis. Repetition of definitions was deliberate to assist the reader in quickly locating terms that might be looked for under more than one key word.

The illustration in Chapter IV is a hypothetical advanced supervised farming program of six enterprises. It illustrates the kinds of entries and calculations that are needed for the combination whole-farm and enterprise system of records in the *Vocational Agriculture Record Book.* Forms on various pages of the record book are used for the different phases of the illustration on record keeping and analysis.

A second illustration in Chapter VI shows how an adaptation of the record book can be made for a student (usually a first-year student) with a limited supervised farming program. Only a small portion of the record book is needed by many beginning students. The student should begin with the simple system of record keeping and progress in his learning until he can keep and analyze the more advanced one.

Chapter V, between the two illustrations, explains how each entry and each calculation was made in the more advanced illustration of Chapter IV. The John Doe illustration in Chapter IV and the chapter of explanations that follows it should be studied by each student before he attempts to keep the record and analyze it for his own supervised farming program.

The procedures for calculating selected kinds of farm returns from records are explained in Chapter VII. There are many kinds of analyses that may be made from a good set of records. Some of these analyses are needed by students and by farmers for measuring the success of the business. Not all forms needed for all the measures of success are found in the record book for use in making the entries and calculations. The record book does provide, however, for calculating net cash income and net farm income on page 24, net returns from each enterprise on page 26, and the total of the student's net income from all sources on page 28. The forms for each of these will be needed by most students in vocational agriculture and by farmers.

The examples and discussion in Chapter VII will be of further use to a student or a farmer as he calculates the various kinds of net returns that are needed by him.

The guide is a valuable text on farm accounting, record keeping, and analysis of records. It should be made available to each student of vocational agriculture for use by him in his program of study in vocational agriculture.